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ABSTRACT

In 1994 the Carnegie Corporation of New York convened the Carnegie Task Force on Learning in the Primary Grades to examine all the forces that contribute to children's learning and development during the age span from 3 to 10. The 33-member group of business and political leaders, scientists, educators, researchers, and practitioners conducted extensive reviews of research and programmatic experience, made site visits to 60 programs in 30 communities throughout the United States, and engaged in formal hearings and informal discussions with parents, teachers, administrators, and community leaders. There were four major findings: First, the majority of U.S. schoolchildren are achieving well below the levels they should be attaining. Second, it is entirely feasible to reverse the widespread pattern of educational underachievement among elementary school children. Third, enough is known about effective policies and practices in all the key learning institutions for each to take immediate steps to improve results for children toward the goal of upgrading education for all. Fourth, the frontline institutions must reach beyond their traditional isolation from each other and coordinate their efforts so that children's learning and healthy development are reinforced from every side. The Task Force recommended a five-point program as follows: (1) promote children's learning in families and communities; (2) expand high-quality early learning opportunities; (3) create effective elementary schools and school systems; (4) promote high-quality children's television and access to other electronic media; and (5) link the key learning institutions into a comprehensive, coordinated education system. Eight appendices contain information about consultants, papers, presenters, participants, public hearings, meetings, visitation sites, and task force members. The final section contains notes and references organized by chapter. (AA)

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YEARS OF PROMISE

THE REPORT OF THE CARNEGIE TASK FORCE
ON LEARNING IN THE PRIMARY GRADES

CARNEGIE CORPORATION OF NEW YORK
SEPTEMBER 1996

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Executive Summary

The years from three to ten are a crucial age span in a young person's life, when a firm foundation is laid for healthy development and lifelong learning. During these seven years, children make great leaps in cognition, language acquisition, and reasoning, corresponding with dramatic neurological changes. They develop greater facility in intellectual problem solving and abstract thinking. Their store of knowledge swells, their attention span stretches, their capacity for reflection increases. They become more proficient in their oral and written communication and better able to relate ideas and feelings to their peers. They also develop greater capability to regulate their own behavior and resolve conflict peacefully. For most children in this age period, it is not too late to overcome earlier difficulties; nor is it too early to prepare for the challenges of early adolescence and middle school.

For most children, the long-term success of their learning and development depends to a great extent on what happens to them during these years of promise. Children fortunate enough to attend a high-quality preschool or child care program and who enter the primary grades with adequate preparation have a better chance of achieving to high levels than those who do not. Children who attend an elementary school that sets high learning standards and does whatever it takes to see that children meet those standards have a better chance of leaving fourth grade proficient in reading, writing, mathematics, and science. Children whose parents create a home environment that encourages learning and who remain involved in their children's education throughout the years from three to ten earn higher grades than those whose parents are uninvolved. Children from communities that provide parents supportive programs aimed at enhancing children's healthy development and achievement and that offer out-of-school opportunities emphasizing learning do better academically than those who have not had such opportunities.

The Pattern of Underachievement

All children are born ready and willing to learn. But as they progress to and through the primary grades, a great many lose their natural curiosity and enthusiasm for learning. Millions of children are not achieving as much or as well as they could, in school or out. Most preschool programs do not prepare children for the more rigorous academic curricula that are being adopted in the primary grades. The vast majority of early care and education programs fail to meet standards of quality. As many as one-third of American children today are entering kindergarten already needing additional support to keep up with their peers. Once in school, young students are not coming close to mastering the concepts, knowledge, and skills they will need to succeed later in life.

The pattern of underachievement is especially stark for children of low-income families and children of diverse cultural, linguistic, and racial backgrounds, who by and large are not receiving the teaching and support they should have as they move from home to school to neighborhood and other settings. For them, the deck can be unfairly stacked against academic success, and the years of promise can fade to hopelessness and resignation.

Underachievement is a General Problem. But make no mistake about it: underachievement is not a crisis of certain groups: it is not limited to the poor; it is not a problem afflicting *other* people's children. Many middle- and upper-income children are also falling behind intellectually. Indeed, by the fourth grade, the performance of *most* children in the United States is below what it should be for the nation and is certainly below the achievement levels of children in competing countries. According to standards set by the National Assessment for Educational Progress (NAEP), today's fourth graders are not sufficiently proficient in reading, writing, and mathematics to be able to cope successfully in the information-based, globalized economy of the next century.

- In the 1994 NAEP assessment, nearly three-quarters of the nation's fourth graders could not meet the criteria for proficiency in reading set for their grade. Forty-two percent were unable to reach even the basic level of performance, which requires only literal comprehension of reading passages.

- In 1994, two-thirds of fourth graders could not meet the standards set for persuasive writing, narrative writing, and informative writing. On persuasive writing, nine out of ten could not meet the proficiency standards.

- In mathematics, 82 percent of fourth graders could not meet the standards on the 1992 NAEP assessment; 39 percent could not solve easy problems, such as "divide 108 by 9."

- In case studies comparing the performance of U.S. urban schools with that of Asian urban schools, the average mathematics score of fifth-grade children in only one American school was as high as that of fifth-grade children in the lowest-performing Asian school.

Has American Education Deteriorated?

Contrary to popular belief, today's schoolchildren are performing about as well as their parents and teachers did twenty-five years ago. Most American schools are managing to hold the line academically, despite the tough challenges of higher child poverty rates, frayed communities and families, and a continual stream of immigrants. Some groups — notably African Americans — are doing better than ever before. But the United States of the twenty-first century will require a much more highly educated and skilled population than it has now if it is to maintain future prosperity and ensure democratic renewal. No longer can the American education system allow so many young people to fall short of their academic promise.

Today, Americans are seeing the drastic shortcomings of an education system that is geared to the academic success of some but not all. They worry that the nation could slide into economic insecurity if their children are ill-equipped to meet the complex demands of the twenty-first century. Some may even conclude that the problems are just too big, too costly, and too overwhelming to counteract or reverse.

As confidence in the nation's education system has slipped, there has been a tendency among parents, educators, business leaders, and others to engage in mutual blaming. Such disillusionment and cynicism are mistaken. Since the 1970s, researchers have documented the many practices within families and communities as well as preschools and schools that have been shown to foster learning among children of diverse backgrounds. Today, hundreds of early learning programs, schools, school districts, teacher groups, researchers, and technical assistance organizations are demonstrating success in preventing or reversing the pattern of underachievement among children, even under the most difficult conditions. No one has all the answers yet. But enough is now known about learning and development in children between the ages of three and ten to begin making significant progress in improving the education of *every* child. What needs to happen now is to put this knowledge and wisdom to work, within and across the sectors, on a large-enough scale to make significant improvement in children's educational achievement nationwide.

Every Child Can Learn

One of the myths that has undermined school reform efforts — and damaged millions of children — is the belief that differences in the educational performance of schools are primarily the result of differences in students' inherent ability to learn. This belief is wrong. Schools fail for other reasons. Most significantly, they fail because of the low expectations they hold out for many students; the heavy reliance that schools place on outmoded or ineffective curricula and teaching methods; poorly prepared or insufficiently supported teachers; weak home/school linkages; the lack of adequate accountability systems; and ineffective allocation of resources by schools and school systems.

Circumstances of birth do indeed raise the odds against children's educational success, but these odds are not insuperable. Studies show repeatedly that children's academic performance is determined more by the time and effort they devote to learning, and by the time and effort that schools invest in teaching them, than by their inborn abilities. With the right combination of challenge and support from parents, educators, and the community, virtually every child, by the end of the fourth grade, can be reading, writing, and doing math and science at levels now achieved by only a few.

The Circle of Responsibility

The first requirement in preventing widespread school failure and underachievement is for the key learning institutions in children's lives to alter the basic assumptions about the quality of work that children can be expected to produce, so that each child is challenged to meet high expectations for learning and achievement and is given the necessary support to succeed.

Schools by themselves, however, cannot accomplish these goals for children. Schools have the primary responsibility for children's formal education, but students' educational success is influenced by far more than what happens to them in the formal system. Families and communities, preschools, after-schools, and the media all have a profound impact on children's learning, and not just during the school years — well before they enter the classroom. When a single child fails to achieve, all of these institutions are likely to be at fault. All of these institutions, therefore, have a shared responsibility to contribute positively to children's learning and development. All must begin to ask what they can do to help reverse the pattern of underachievement and bring our education system into line with our national need for a wholly educated population.

Principles of Effective Practice. Within each of these spheres of influence, there are certain principles of effective practice that have already been put to work — in parent education programs, preschools, schools, community organizations, and other key learning institutions — and that are producing positive results for diverse groups of children. From studies and evaluations of these programs, it is possible to derive certain principles of best practice that are common to all. The task force calls on all the institutions that contribute fundamentally to children's learning to start today to align their policies and day-to-day practices more closely with these common principles of effective practice, outlined below:

- Ensure, from the start, that children are ready to learn, physically and emotionally.
- Set high expectations for every child, monitor the child's progress continually, and intervene quickly when problems arise.
- Create high-quality, varied learning environments that support each child's learning.
- Provide high-level professional development to those responsible for children's education and development.

- Embed children's learning in caring and collaborative relationships with educators, parents, and other adults.
- Actively engage parents in their children's education at home and in schools.
- Accept responsibility and accountability for each child's learning and healthy development.
- Make efficient, equitable use of resources for children's education.
- Collaborate more closely with other institutions and programs that affect children's learning.

Taken together, these principles of best practice provide a broad framework for a comprehensive learning strategy proposed by the task force. If this framework is accepted by the nation, if these principles are applied within all the core learning institutions in children's lives, and if these practices are coordinated to provide children a more coherent learning experience, then all children will achieve to levels that exceed current expectations of their performance. Even if institutions do not link their efforts, there is much that each can do independently to contribute to children's educational success; the failure of one to do its job effectively, therefore, is no justification for the others to falter in their own efforts on children's behalf.

Task Force Recommendations

The task force recommendations can be encompassed within a five-point program, as follows:

- **Promote Children's Learning in Families and Communities:** Families are the wellspring of learning for children. To assist parents and other caregivers in fulfilling their role as children's first teachers, the task force recommends that states and communities make available to every interested family with preschool or primary grade children effective parent education and family support programs that promote learning and healthy child development. Early care and education programs and elementary schools should involve parents in their services to children. Communities should expand and improve their out-of-school programs, so that their activities are linked to children learning curricula in school. More efforts should be made to accommodate children from low-income families, children with disabilities, and children whose first language is not English. Quality standards for all community programs for children should be established and enforced.

- **Expand High-Quality Early Learning Opportunities:** During the preschool years, children make the developmental leaps that form the basis of later achievement. To get all children ready for school and for an education that meets high standards of achievement, the task force recommends that the nation make a commitment to expanded high-quality public and private early care and education programs for children ages three to five, supported by national, state, and local mechanisms that are coordinated to assure adequate financing.

In this mixed system of private and publicly supported programs, higher standards should be developed for facilities, staff qualifications, and overall program performance.

▼ Create Effective Elementary Schools and School Systems: High-quality preschools will not, however, produce lasting benefits for children if they are followed by poor elementary school experiences. The task force, therefore, recommends that states play a leading role in developing and adopting high-quality standards that specify what each elementary school student should know and be able to do across all subject areas. They should set rigorous performance standards in math, reading, writing, and science for the end of the fourth grade.

Educators should apply the same standards of academic performance to virtually all students and use every available method to ensure that each student succeeds in meeting the requirements. Language-minority children should be offered an equal opportunity to learn the same challenging content and high-level skills expected of students proficient in English. For the small proportion of children who may not be able to meet all of the standards due to severe disabilities that affect learning, individual education plans should set reasonable goals toward meeting the highest standards possible.

States and school districts should invest adequate money, time, and support in professional development of school staff. Professional development should be closely related to the school's overall strategy for meeting high standards of achievement and should encompass the use of effective instructional practices in the classroom.

Elementary schools and districts need to monitor continually each child's progress toward the fourth-grade standards, beginning in kindergarten and the first grade, and intervene with additional time and varied instruction as soon as a child falls behind. School districts should monitor schools, and states should monitor districts, to provide additional support and intervention when children are not progressing toward the goals.

▼ Promote High-Quality Children's Television and Access to Other Electronic Media: Television and emerging interactive technologies offer a powerful, underutilized opportunity to motivate children and help them meet the higher learning standards. The task force recommends that the President, Congress, media executives, and business leaders vigorously enforce the provisions of the Children's Television Act of 1990, to ensure that every community has a variety of choices for high-quality children's educational programming throughout the week. Communities should engage local businesses as partners in efforts to create broad access to the new information technologies and

sophisticated computer applications, so that no child is denied full opportunity to use these creative learning tools.

- **Link the Key Learning Institutions into a Comprehensive, Coordinated Education System:** The discontinuities in the educational experiences of young children call for the creation of comprehensive, continuous services that link families, early care and education, and schools so that children's learning and development are reinforced from every side. State and local leadership councils or committees should create strategic plans to address the learning and developmental needs of children, based on the recommendations of this report.

Making Rational Use of Resources

Almost all of the task force recommendations can be carried out by realigning priorities and making far better use of existing monetary and nonmonetary resources — eliminating programs that do not significantly improve teaching and learning and putting existing funds toward programs that work. More public financing, however, will be needed to vastly improve the quality and availability of early care and education programs, so that children of three, four, and five receive adequate preparation for school and academic life and progress toward meeting the new learning standards. Finally, efforts must be made to reduce the dramatic disparities in public school funding across states and districts.

Many actions are needed at different levels to reverse the pattern of underachievement among the nation's children. But what is required above all is the conviction that dramatic improvement in children's learning is possible if Americans work together to build the sturdy institutions needed to assure achievement, opportunity, and coherence in the educational experience of all children. Between the ages of three and ten, children make great leaps in their intellectual prowess, social skills, and ability to manage the emotional ups and downs that are part of everyday life. If all of us could see their mental agility as easily as we observe their growing physical agility, then more Americans would believe that all children can learn to levels that far surpass our expectations.

It is within the nation's power to accomplish these results for children. If we fail to keep the promise — if we continue to focus on the most fortunate youngsters and leave the rest behind — the costs to our society in human distress, lost productivity, crime, and welfare, and in the fraying of our nation's democratic ideals, will be unbearable. The choice is ours.

FOREWORD

Over the past dozen years, Carnegie Corporation of New York has made a concerted effort to advance the nation's understanding of child and adolescent development and to foster positive outcomes for children and youth in the face of drastic changes in the American family and society. Through grants and the sponsorship of special study groups, the Corporation has sought to strengthen useful knowledge of child and adolescent development, to raise public awareness of the facts, and to offer realistic solutions for improving the life chances of young people everywhere.

From the 1980s through the early 1990s, two crucially formative and comparatively neglected phases of the life span have been the primary focus of the foundation's work. These are the first three years of life, beginning with the prenatal period; and early adolescence, covering ages ten to fifteen. Different multidisciplinary study teams were formed to address the developmental needs of children in these two age groups and to make recommendations for action by the key institutions of modern society that powerfully influence the young. The reports resulting from these investigations, *Starting Points: Meeting the Needs of Our Youngest Children* (1994) and *Great Transitions: Preparing Adolescents for a New Century* (1995), have been widely disseminated to the public and are having an effect on policies and programs throughout the nation.

The Carnegie Task Force on Learning in the Primary Grades was created in January 1994 to focus on the crucial developmental and learning needs of children in the middle years, from three to ten. With a membership of twenty-three leaders in child development, education, business, government, and the media, it is cochaired by Shirley M. Malcom and Admiral James D. Watkins, both of them Corporation trustees. The executive director is Antony Ward. Once again, the foundation has been very fortunate in drawing together a distinguished group of

leaders from different sectors of American society — all devoted to creating better opportunities for our children in a time of profound transition. The Corporation is profoundly grateful to the cochairs and the task force staff for their superb contributions over the past two years.

Years of Promise: A Comprehensive Learning Strategy for America's Children is the final report of this task force and a culmination of the Corporation's special initiatives in the field of children and youth. Together, the recommendations of the three reports cover the entire spectrum of early life, from before birth to age fifteen, and form the basis of a cohesive strategy for ensuring the optimal learning and development of all the nation's children and youth.

The current report addresses primary grade education in the broader context of development during middle childhood. It focuses on the main factors that influence learning in and out of the classroom, considering not only families, preschools, and schools but several other institutions that bear strongly on healthy growth and learning.

Over the years from three to ten, children undergo gradual changes that are significant for their long-range development. These changes are not as drastic as those of the first few years or of early adolescence, but they are of enduring significance. Children in these years develop greater facility in intellectual problem solving and greater capacity for close friendships. They also develop more flexible abstract thinking, greater self-regulation, and a more extensive repertoire of cognitive and interpersonal skills altogether. For most children of this age period, it is not too late to overcome earlier difficulties, nor is it too early to prepare for the great transition of adolescence.

These seven years are the age span when a firm foundation is laid for later well-being and accomplishment. But children face plenty of stressful experiences during these years, and the opportunities to foster their health and education are all too often missed. These years, like the earlier and later ones, are strongly affected by the transforming world in which we live. The main institutions that shape development during this period need urgent help to adapt to changing circumstances.

Much research has shown that parents' behavior has a great bearing on their children's educational accomplishment. Indeed, as the report points out, families are the wellspring of learning for young children. The report, therefore, focuses squarely on the need for more parental education and support for families as they carry out their essential role as children's first teachers. Parents' involvement can help children adapt to school initially and stimulate accomplishment over the years. Deliberate

efforts to involve parents in various ways in their children's learning, ranging from providing home education to serving as teacher aides or members of school governance committees, is an obligation of all the institutions involved in children's learning.

This report urges community-based institutions, after-school programs, and the media to strengthen their positive contributions to children's learning and healthy development in the foreseeable future, and it suggests ways that they and the other powerful institutions of society can join forces in adapting to the requirements for a highly educated citizenry of the late twentieth century and early twenty-first.

Years of Promise also addresses the need for greatly expanded child care and early learning opportunities for preschool children. There is ample evidence from research and good practice that preschool education programs such as Head Start provide valuable preparation for young children entering kindergarten and first grade, especially those from disadvantaged backgrounds. Educational activities in the years immediately preceding entry into the primary grades get preschoolers ready for more formal education, provide preventive health services, involve parents in their education, and open doors to community resources.

Next comes the transition to elementary school. As in other major transitions, children need special attention to cross the threshold successfully. Fortunately, research efforts directed at the discontinuities in the transition from preschool to school have given valuable guidance to educators, program directors, policymakers, and the general public.

The elementary grades constitute a defining experience for children — one that will heavily influence the life course from middle childhood to adolescence and beyond. The importance of success in school is profound. A child's fundamental sense of worth as a person depends substantially on the ability to achieve in school. A child who is faced with low expectations for performance or who is not supported in meeting high expectations sets in motion self-defeating attitudes that can lead to educational alienation and diminished prospects over the entire life span. The report provides a framework for improving the educational performance of all the nation's children, based on the best evidence from research and practice.

Can we do better than we are doing now? The report answers yes emphatically! It shows the way to prevent much of the damage now occurring. Not only would the measures advocated here greatly enhance learning, health, and decent human relationships among the young, but they would have powerful beneficial social and economic impacts. Bringing the years of promise to fulfillment would surely improve the life chances of all our children and thereby enhance the future of the entire society.

This report, like the prior ones, has depended heavily on Carnegie Corporation's staff, who are deeply dedicated to the well-being of all our children. Their knowledge, skill, and commitment have contributed much to this report. As before, Vivien Stewart and Avery Russell have provided guidance and ensured quality at every phase of the effort. Several others have also made valuable contributions, especially, Antony Ward, Rima Shore, Michael Levine, Anthony Jackson, Fritz Mosher, Anne Bordonaro, and Marchelle Rush. Maud Abeel, Jeannette Aspden, Katherine Bobbitt, Beth Hickner, Patsy McCook, Susan Smith, Valerie Vitale, and Sara Wolpert have provided additional assistance.

DAVID A. HAMBURG
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PREFACE

It has been a while now since our own children were small, but neither of us can forget the milestones that marked off the years: moving from a trike to a bike; losing "baby teeth" and getting permanent ones; learning to read and write, to add, subtract, multiply, and divide; planting seeds and watching them grow; having playmates and then good friends; starting school; getting a first library card. Throughout the years from three to ten, our children were developing as people, as learners, and as citizens of their community. Although the formal system of education started for them at age five, they were learning from the first day of their lives and throughout the preschool years. As they entered elementary school and grew more independent of us, they remained closely connected to family.

Whether children have the opportunity for learning to the highest levels during those earliest years depends today, as it always has, almost entirely on the family they are born into — and whether the family has access to regular health care, to high-quality early care and education opportunities, to enriching school and out-of-school experiences, and to other supportive services in the community. But now parents are finding it more and more difficult to cope as they try to make both a living and a life for themselves and their children.

Today's children are themselves going to have to earn their living, care for their children, and make their way in a much more complex world — a world where change is the constant and where knowledge and skills will determine whether they have a good quality of life or just survive. We can prepare these children for that world, by ensuring their healthy development and raising the standards for what they must know and be able to do to the level required for success in the global economy of the twenty-first century. But we must begin getting them ready for that world now.

The Carnegie Task Force on Learning in the Primary Grades focused on the age span from three to ten because, for most children, the long-term success of their learning and develop-

ment is largely dependent on what happens to them during these "years of promise." In conducting its work, the task force examined the most important institutions that contribute to children's achievement — namely, the family, preschools and other child care and early learning programs, and elementary schools, but also community-based organizations, after-school programs, and the media. Each of these institutions has a profound impact on children, and not just during their school years but long before they enter a classroom.

In the years before they enter elementary school, some children have ready access to good medical care, but a substantial number do not and suffer unnecessarily from preventable diseases. Some children speak English at home, but an increasing number are fluent in other languages and only begin English in school. A few attend a high-quality preschool or child care program, but other children spend years in poor-quality programs that contribute little toward meeting their developmental and learning needs. Some children come from families already skilled in organizing their homes to support learning, both in and out of school, while others come from families who need access to information and advice to accomplish this goal.

As children begin primary education, the crucial differences in their prior life experiences persist. Good health care continues to be available to some children and not to others. Some children have access to a rich variety of constructive after-school programs and community activities and to lessons and tutoring that support and supplement their learning, while others do not. Some children have computers at home, while others spend virtually their entire out-of-school time in the house watching television — often because their parents justifiably fear for their safety out-of-doors.

Of course, these differences in children's experiences do not explain all the differences in their learning. All children bring to school characteristics that need to be accommodated and built upon in their education. Elementary schools, however, have traditionally been ill-equipped to cope with differences among children and, for the most part, are not organized to address them. As a result, large numbers of American children fail to achieve to the levels they should, measured by the nation's own standards and by comparison with the achievement of children in other, competing nations. The burden of underachievement affects children of all income groups and social backgrounds, but it falls particularly hard on low-income children.

In undertaking its mission, the task force held six two-day meetings, commissioned background papers from prominent scholars on key issues, and reviewed the burgeoning research on effective programs. Task force members and staff visited and observed more than sixty schools and programs in thirty different communities throughout the country and held informal meetings with scores of teachers and parents. Local administrators, teachers, union

officials, parents, early childhood and after-school specialists, and business leaders were also invited to address the task force at more formal hearings held in Washington, D.C., and Los Angeles.

The task force found that taking a wider perspective on education — looking at all the major influences on children's learning and development from three to ten — revealed more of the deficiencies of the American education system than an exclusive look at formal schooling would have permitted. This wider perspective helped to explain the underachievement of so many young children and also pointed toward solutions.

Based on our research and our discussions with people throughout the country, the task force has concluded that each institution involved in children's learning and development can begin to improve educational outcomes for children, by adopting approaches and implementing programs known from studies and evaluations to work. Beyond what they can do independently, these institutions can also seek to link their efforts, aided by the powerful sectors of society, in the creation of a comprehensive learning strategy for all of America's children.

The task force urges that all of children's learning from the age of three to ten be understood as vital to their successful education. First, we challenge families and communities, preschools, after-schools, and media industries to accept responsibility and accountability for carrying out their unique roles in strengthening the currently deficient educational system. Second, we ask for greatly expanded opportunities for high-quality early education and child care opportunities for preschool children. Third, we propose that elementary schools themselves be helped to reorganize so that they can cope more effectively with the wide range of differences among children, setting high standards and enabling all children to achieve their optimal learning and development. Finally, we ask these institutions to begin working together to develop and support the proposed comprehensive learning strategy.

The task force is persuaded that, as a nation, we now have the knowledge and resources to implement this strategy. We hope that *Years of Promise* will help to mobilize the will to do so.

As cochairs, we wish to express our profound appreciation to the members for their commitment to the work of the task force. The discussions at our meetings and during our many visits to programs produced an extraordinary array of provocative and stimulating ideas, and those ideas infuse this report. We also express our gratitude to the staff and children at the many programs that task force members visited during the course of our work and to the scores of parents, teachers, and administrators who took time to talk with us informally and in formal hearings about the issues as they saw them. Their opinions and concerns profoundly influenced our work.

We acknowledge the legacy of two giants of education who shared their wisdom and insight with us before their deaths: Fred Hechinger, who was actively involved with the task force from its inception; and Ernest Boyer, who in one of his final public presentations shared his work on the primary school.

We also thank all the staff members of the task force at Carnegie Corporation who tirelessly assisted our investigations over the past two years and who provided crucial support in the preparation of this report. In particular, we wish to acknowledge the work of Antony Ward, executive director of the task force, and Vivien Stewart, chair of the Corporation's grant program on Children and Youth. Staff members Michael Levine, Anthony Jackson, and Fritz Mosher brought their deep knowledge of the complex issues to the deliberations of the task force and helped prepare major segments of the report. Consultant and writer Rima Shore infused the report with her deep knowledge of education and her strong writing.

Avery Russell, the Corporation's director of publications, applied her enormous expertise to the hectic stages of rewriting, editing, designing, and producing the report. Anne Bordonaro oversaw the research for the report and was a lively participant in our meetings, while Marchelle Rush managed the endlessly complex mechanics of the meetings and program visits and kept the drafts of the report flowing. Jeannette Aspden, Nidia Marti, Valerie Vitale, and Sara Wolpert also provided important support.

We want to thank our staffs as well, at the American Association for the Advancement of Science and the Consortium for Oceanographic Research and Education, who not only shared our attention with the work of the task force, but also had to keep up with schedules and drafts as well as find us on the globe when we needed to get together.

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Part I

CHILDREN OF PROMISE

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Chapter 1

Reversing the Pattern of Underachievement

Crowding a park playground, wrapped so warmly it is a wonder they can move at all, a pack of children three and four years old head for the slide. One polka-dot bundle squats to pick up a shiny stone, unaware that her curiosity is about to wreak havoc on the line of children behind her. A child in a puffy snowsuit crashes into her and plops to the ground, and several others follow. A boy and a girl, barely visible under hats and scarves, try to show each other how to whistle. One boy in a peaked cap boosts a hesitant playmate up the ladder. At the top they hurl themselves down the spiral chute — spirited, resilient, eager for adventure.

These are the children of promise — preschoolers whose boundless energy is matched only by their curiosity and creativity, whose agility is the envy of their parents and teachers, whose openness and expressiveness are always remarkable and occasionally breathtaking. Watching them, it is easy to believe that they can do anything they want to do, be anyone they want to be; it is easy to summon the optimism that yet a new generation is rising to fuel this nation's historical belief in endless possibility.

Fast forward to age ten. Over the years these children have caught occasional glimpses of each other at the playground, but for the most part their lives have diverged. Some attended a high-quality preschool; others stayed at home until they entered kindergarten; still others were "watched" by an aunt or a neighbor while their parents worked. Some saw a pediatrician regularly; others were taken to the emergency room for fevers or stomachaches.

One of the whistlers from the playground is now a computer whiz and eager to learn new skills. The child in the puffy snowsuit has discovered she likes math and science. The other whistler started out liking math but now gets poor marks from his teachers. The boy in the peaked cap is obsessed with video games; he gets good grades in school but he doesn't read unless he is pushed. In the afternoons, they shuttle between trumpet, piano lessons, soccer

practice, and after-school programs. But others return each day to an empty house and a television set. One wanders the streets, wondering if anyone will notice whether he goes home at all; some days he skips school altogether. The child in polka dots now spends most of her afternoons babysitting for her little brothers and watching sitcoms. There is homework to do, but she avoids it. The shiny stone has been long forgotten.

But make no mistake about it: underachievement is not just a crisis of certain groups. It is not limited to the poor; it is not a problem afflicting *other* people's children. The fact is, two out of three school dropouts in the United States are *not* poor at the time they leave school, and most children who drop out have *never* been poor.

Something happens to many American children as they progress to and through the elementary grades — something elusive and disturbing: over the years, they lose their natural curiosity and their enthusiasm for learning. Millions of children are not achieving as much or as well as they could, in school or out; they are not coming close to mastering the concepts, knowledge, and skills they will need to succeed later in life.

The pattern of educational underachievement is especially stark for millions of children of diverse cultural, linguistic, and racial backgrounds, who are not receiving the teaching and support they should have as they move from home to school to neighborhood and to other settings in the course of each day. Many come to school using a nonstandard form of English; others are from homes where English is not the dominant language or where English is not used at all. Such children often enter school with perspectives and behaviors that differ from those that prevail in traditional classrooms. For them, the deck can be unfairly stacked against academic success, and the years of promise can quickly fade to hopelessness and resignation.

But make no mistake about it: underachievement is not just a crisis of certain groups. It is not limited to the poor; it is not a problem afflicting *other* people's children. The fact is, two out of three school dropouts in the United States are *not* poor at the time they leave school, and most children who drop out have *never* been poor.[1] What Americans must come to terms with is that many middle- and upper-income children are also failing to thrive intellectually. By the fourth grade, the performance of most children in the United States is below what it should be.

Every Child Can Learn

Years of Promise, the report of the Carnegie Task Force on Learning in the Primary Grades, affirms the conviction that all children in the nation are children of promise; virtually all children can learn and achieve to much higher levels than they are reaching today, given the right combination of challenge, attention, and teaching from families, schools, and communities.

Being Three

Children grow and develop at different rates, and the same child will progress more rapidly in some areas of development than in others. Generally speaking, however, by three most children are:

- Self-confident and trusting: They know that they are important, that their needs and desires matter, and that their actions make a difference. They trust their caregivers and count on them to teach them and to satisfy their needs; they believe that with their help they can succeed.

- Intellectually inquisitive: They enjoy learning new facts, skills, and ways of understanding the world. They ask many questions to gain information about the world and their place in it. They can learn from fantasy play, from books, from television, and, most importantly, from their parents and other caregivers.

- Able to use language to communicate: They begin to use words to exchange ideas, concepts, and feelings with others, and to express aggression and frustration in healthy ways. They can follow simple directions and understand the gist of many conversations and stories, and they can describe themselves to peers in terms of their behaviors or possessions ("I can jump high"; "I have a doll").

- Able to use their increasing physical agility to play and explore: They are beginning to jump, climb, and balance reasonably well, and they enjoy practicing these skills. They have a more realistic view of the consequences of their physical actions than they did as toddlers, and this instills in them both new confidence and somewhat more self-restraint.

- Able to relate well to others: They enjoy playing with other children and are beginning to share toys and ideas. Their relationships with adults become more complex and reciprocal. Children begin to regulate their own impulses and to behave in ways that will be acceptable or gratifying to others.

- Able to empathize with others: They have a growing sense of connectedness and social responsibility. They have some awareness of the thoughts, feelings, and experiences of others, and they show concern, and may intervene, when others are suffering.

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This conviction is fueled by more than mere optimism. Beginning with the effective schools movement and the effective parenting research of the 1970s, researchers have documented the kinds of family interactions, family support activities, early care and education, and elementary school practices and policies that can strengthen children's achievement.[2] More recent research has begun to explore how these initiatives and practices can be expanded to embrace a much larger number of families, schools, and communities.[3]

Poverty and other adverse circumstances do indeed raise the odds against many children's academic success, but *some* parents, *some* community education efforts, *some* preschools, and *some* elementary schools have overcome these odds. Today, hundreds of schools, school districts, teacher groups, researchers, and technical assistance organizations have begun to demonstrate how these initiatives and practices can be extended to every family, school, and community to reverse the pattern of underachievement.

Educators and others are gradually evolving a more systematic approach to children's learning, selecting strategies on the basis of well-designed evaluations, modifying these strategies to determine the best approach for each child, continually assessing each child's progress, and adjusting instruction accordingly. No one has all the answers yet. But enough is now known about learning and development to begin to make significant progress in improving the education of every child. To a greater degree than ever before, early school failure can be prevented.

The Task Force's Approach

The report of the Carnegie Task Force on Learning in the Primary Grades focuses on children's learning and development from the age of three to ten. It documents the importance of this age span in laying a firm foundation for healthy development and lifelong learning. It explores the various contexts in which learning takes place that influence children's future achievement and productivity. It refutes the myths and counters the cynicism that have undermined educational reform efforts and that only further damage our children. And it considers the consequences for a nation that, deliberately or inadvertently, fails to grasp the opportunities at hand to foster competent, confident learners for the twenty-first century.

More importantly, *Years of Promise* offers workable remedies. The trajectory of underachievement followed by so many of our students through no fault of their own can be changed. The evidence from research and demonstration is strong enough, the practical experience from implemented programs and successful schools firm enough, and the positive results for children solid enough to point the way: Educational success is possible not just for some but for all the nation's children. By the end of grade four, virtually every child can be reading, writing, and doing math and science at levels now achieved by only a few.

Development in the Years from Three to Ten

As they clamber up the ladder to whoosh down the slide, the three- and four-year-olds in our playground are indeed moving "fast forward." Their next seven years will be marked by rapid and continuous physiological, intellectual, and social changes, so that in seven years they will be almost unrecognizable from the snowsuited bundles we have just met. A three-year-old can generally shape clay, construct simple sentences, and express empathy toward others. A child of six is agile and coordinated enough to ride a two-wheeler, make a potholder on a hand loom, and use a pencil to print her name. By age ten, she will be able to cartwheel across the playground, deftly finger a musical instrument, or assemble a model car from dozens of small pieces. By then, she will have almost doubled in height and weight.[4]

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Brain Development. Many of the leaps that children make during the years of promise correspond with dramatic neurological changes. Thanks to advances in neuroimaging, scientists have amassed more knowledge over the past ten years about how the human brain develops than they had accumulated in the previous several centuries.[5] New findings are revealing the immense capacity of the young brain for learning. They are showing that, in the first decade of life, brain development hinges not only on an individual's genetic endowment but also, to a greater extent than previously realized, on experience and environment.

Five-to-Seven-Year Shift

In communities around the world, children's capacities and responsibilities shift dramatically somewhere between the ages of five and seven. In many parts of the world, children are expected, during this period, to know rules, appreciate cultural customs and abide by them, and to take more responsibility for performing household chores, caring for younger children, or tending animals. It is during this age span that they are thought to be ready for formal teaching or training. The timing and nature of this shift depends on the cultural context as well as on individual children's rate of development, their family and community setting, and their educational experiences, but it almost always occurs during this two-year period.

Developmental scientists have observed a leap, during this age span, in children's social, moral, and cognitive growth. By age seven, most children can:

- Learn for learning's sake: Their ability to learn things is not conditioned solely by the immediate social or cultural setting. Seven-year-olds can deal with abstractions more readily than younger children. Presented with an object or an idea, they can make associations based on memory or imagination.

- Focus on an activity for an extended period: Their attention span is growing, and they can plan and carry out activities requiring more than one step. Seven-year-olds can pay attention to more than one thing at a time.

- Think about themselves in complex ways: Before age five, children often characterize themselves in terms of their behavior or their possessions ("I can run fast"; "I have a baby brother"); by age seven, they are often able to generalize about their personal qualities ("I am athletic"; "I am part of a family"), and they become more accurate in assessing their own strengths and weaknesses. They can make social comparisons ("I can run faster than Jimmy but not Bobby").

- Use language for various purposes: They communicate easily, using a rapidly expanding vocabulary and a grasp of basic grammar. By the time they are seven, children use language not merely for communication but also for expression and interpretation. Seven-year-olds know that language can be manipulated, and they enjoy using it to entertain and amuse themselves and others.

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During the years from three to ten, the brain is more densely "wired" than at any other time in the human life cycle — that is, it has more synapses connecting brain cells. This is particularly true in the part of the brain that controls complex cognitive functions, such as language and logical thinking. Brain activity in children ages three to ten is more than twice that of adults.[6]

In the course of development in early childhood, the brain tends to retain and reinforce those connections that are repeatedly used and to eliminate those that are not. As the brain matures, excess synapses are "pruned" — a process of refinement that responds to experience and therefore proceeds differently for every individual. This "fine tuning" continues throughout the first decade of life. Brain researchers believe that the pruning process, particularly in the cerebral cortex, is associated with the mastery of basic skills and the formation of intellectual capacities.

The brain has evolved in ways that make it particularly efficient at acquiring a range of skills, such as language, in a child's first ten years. Afterwards, learning continues, but in most individuals later remediation, while certainly possible, is more difficult.

Severe neglect or trauma during childhood can have a devastating impact on the development of the brain and on all the functions mediated by the brain — emotional, cognitive, behavioral, and psychological. For example, children who experience chronic abuse or neglect may fail to develop fully the biological systems that allow and regulate the expression of emotion and that can help a child learn to be resilient during times of adversity. Children who form strong, trusting attachments to caregivers in the early years and throughout the first decade are more likely to develop the coping skills that stand them in good stead in the face of stresses that life inevitably brings.[7]

Cognitive, Social, and Emotional Growth. With each passing year between the ages of three and ten, children's thinking and language gain precision and complexity. Their store of knowledge swells, their attention span stretches, their capacity for reflection increases.[8] They become more self-confident and proficient in their oral and written communication and better able to relate ideas and feelings to their peers and adults. These capacities allow children to take on more challenging academic tasks, such as reading and mathematics. During this age span, children also experience dramatic social and emotional growth, developing the framework for negotiating social relationships, the capacity to understand and resolve moral dilemmas, and the attitudes and habits that will affect their long-term health and even their longevity.

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The Big Sort

The phenomenal pace of children's growth along many dimensions, and the nature of the tasks they must master, make the age span from three to ten absolutely crucial for children's optimal learning and development. These years offer families, communities, and schools critical intervention points for helping children to develop knowledge and skills, positive attitudes toward learning, healthy behaviors, and emotional attachments of powerful and enduring significance.[9] If these opportunities are squandered, it becomes progressively more difficult and more expensive to make up for the deficits later on.

Some studies conclude that it is possible to identify future dropouts as early as grade three, based on students' school performance, particularly in language skills and reading.

During these years, children solidify a sense of who they are academically and where they stand in relation to their peers. The ideas they absorb about their own capabilities, based on messages they receive within the family, schools, neighborhood, and the popular media, can have a decisive impact on their later success.[10] These messages can be especially important for children whose culture, language, race, family structure, or economic status differ from those of the mainstream. Most children, including those who are later identified as "at risk," begin the early grades with the conviction that they will succeed. But by the time they reach grade four, the loss of confidence in their own abilities that many experience may be nearly irreparable.

For the majority of schoolchildren in America, the early elementary grades are the years of the "big sort," when educational stratification begins in earnest.[11] Studies over two decades have shown that children's later achievement is highly influenced by what happens to them in their first years of formal schooling. By the end of third grade, most children "are launched into achievement trajectories that they follow for the rest of their school years."[12] Some studies conclude that it is possible to identify future dropouts as early as grade three, based on students' school performance, particularly in language skills and reading.[13]

Researchers are finding that children who are taught inappropriately and take an early dislike to schoolwork, or who come to have doubts about their academic worth, may be at a disadvantage in all future learning.[14] In contrast, those who enjoy classroom activities and feel valued as learners are likely to seize opportunities for learning both inside and out of school.[15]

Language-Minority Children. Adjusting to classroom settings and mastering basic skills are difficult tasks for any child. For the approximately 2.8 million children who come to school each year unable to speak or understand English, the challenges are even more formidable. These children come from all over the world. Once they enter

American schools, most learn English quickly, becoming reasonably fluent within two to three years. As they learn English, most come to prefer it to their native language.[16] But research shows that many children need much more time — as many as four or five years — to master the English-language skills needed for school success.[17] For language-minority children, the challenges are not merely linguistic; they must learn to negotiate new cultural terrain as well, interpreting new words, gestures, and unfamiliar ways of communicating feelings, regulating behavior, or negotiating differences.

Home and Classroom. The culture of the classroom may also be disorienting for children who were born in this country but whose race, ethnicity, or economic circumstances set them apart from the other children. When they enter school, the expectations and assumptions they confront may differ dramatically from those they internalized at home. Several leading scholars have pointed out that the disparity between the culture of the home and the culture of the classroom begins to undermine many children's enthusiasm for learning at about the age of eight.[18] If children feel out of place, if

At Ten

By age ten, most children have achieved a strong sense of independence and a complex understanding of who they are and how they fit in with their schoolmates and friends, as well as with their parents and other adults. Children mature at different rates, but at ten most children are:

- Thoughtful about their own identity: Younger children tend to evaluate their strengths in different areas (such as handwriting, running, or singing), but ten-year-olds have an overall sense of self-worth. They can compare their own capacities with those of other children, and they have a clear sense of the social acceptability of the traits they see in themselves or in others.

- Capable of logical, consistent, deliberate thought processes: Ten-year-olds can use logic to organize information and can solve complex, multistep problems on their own. They can also describe the mental activities and logic that undergird their learning processes. Having mastered many basic skills they can now imagine future possibilities that propel their interest in gaining other skills. As they read (or watch television or use their computers), they can think critically, comparing the perspectives of more than one person and grasping the relationships among different theories or facts.

- Able to use language effectively and to adjust their use of the language to different situations: They can use their wide vocabulary and strong grasp of grammar to describe their experience, defend a position, or negotiate conflict. They can understand and use the language of the home, the classroom, and the community when each is appropriate.

classroom instruction is remote from the experiences and commitments of their own lives, they may tune out. As they feel the weight of their teacher's disappointment, they may fall further and further behind in school. Task force member James P. Comer observes that, because of discouraging and dissonant experiences, children from low-income and minority backgrounds are more likely than other children to see academic success as beyond their reach, and so they may protect themselves by deciding that school has no value.

Special Education — A One-Way Ticket? One mechanism of the big sort is the special education system. It offers critical services to many students who have real need for special attention, but it may derail many others who, given intensive, sustained instruction, would be capable of meeting high expecta-

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- Able to use their bodies effectively: Ten-year-olds have learned the physical skills needed for a range of games and activities, such as basketball, gymnastics, or swimming, and with practice they can become proficient in these areas. They can participate effectively as part of a team. They have well-developed fine motor skills and can manipulate small objects with ease.

- Forming a set of values to guide their behavior: They are able to articulate an ethical dilemma and to explain the principles that underlie it. Having tested the core values of their families and communities against those of their peers, they are able to internalize a consistent set of values that guide their behavior.

- Able to negotiate a wide range of social interactions without adult help: By ten, most children have mastered the basic social conventions of their communities and appreciate the usefulness of those conventions. They can define their place within a peer group and can participate, without adult supervision, in rule-based games. Ten-year-olds can develop friendships that transcend momentary interactions, and they seek to resolve conflicts in order to sustain important relationships.

tions in regular classrooms. The number of students ages three to twenty-one annually served by special education programs has climbed sharply, reaching 5.4 million in 1993–94. This represents a 37.5 percent increase since 1976–77. Children between the ages of three and eleven constitute more than half the special education population.[17]

Students identified as having specific learning disabilities account for slightly more than half of all those in special education. There is growing evidence that many of these children may not belong in special education at all. Some are referred by well-intentioned teachers who believe that a special education placement is the only way to get extra help for students running into academic trouble. At the same time, it appears that children with other kinds of special needs — those with emotional and behavioral problems — may be underserved.[18]

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For too many children, a referral to special education is a one-way ticket: too few are given opportunities to return full time to regular classrooms. In some big-city school systems, the rate of "decertifying" children from special education may be 5 percent or less.[21] In these districts, students in resource rooms and self-contained settings appear to be making very little headway in mastering basic academic skills.

Underachievement Is a General Problem

Children from all backgrounds face obstacles to successful learning — native speakers of English as well as second-language learners; children in regular classrooms as well as pupils in special education; children from middle-income families as well as those who live in poverty; children in the suburbs as well as those in the cities. If their approaches to learning are at odds with the approaches to teaching that characterize most classrooms, and their strengths and needs go unnoticed, they are at special risk of having educational experiences that are at best unsatisfactory, and at worst deeply scarring.

And indeed, by the time they reach fourth grade, the great majority of today's children have not met the standards for proficiency in reading, writing, and mathematics that have been set in this country. The United States has yet to reach professional or popular consensus on acceptable levels for student achievement, but in 1992 the Governing Board of the National Assessment of Educational Progress (NAEP) made an effort to define what the nation's students should achieve in reading and math. On the 1994 assessment, NAEP found that nearly three-quarters of the nation's fourth graders could not meet the reading criteria set for their grade.

To meet the "proficient" standard on the NAEP examinations, children must show that they can read, understand, and draw conclusions from a variety of texts selected for their age and grade. But a large percentage of students — 42 percent — were unable to reach even the basic achievement level, which requires only literal comprehension of reading passages.

Mathematics achievement is even lower. The vast majority of fourth graders — 82 percent — could not meet the standard for proficiency in mathematics on the 1992 assessment, the most recent test for which data are available. This test included problems considered to be "challenging" for fourth graders. For example, one question was, "By how much would 217 be increased if the digit 1 were replaced with the digit 5?" A large percentage of fourth graders — 39 percent — were unable to reach even the lowest achievement level, which required them to solve "easy" problems, such as "divide 108 by 9."

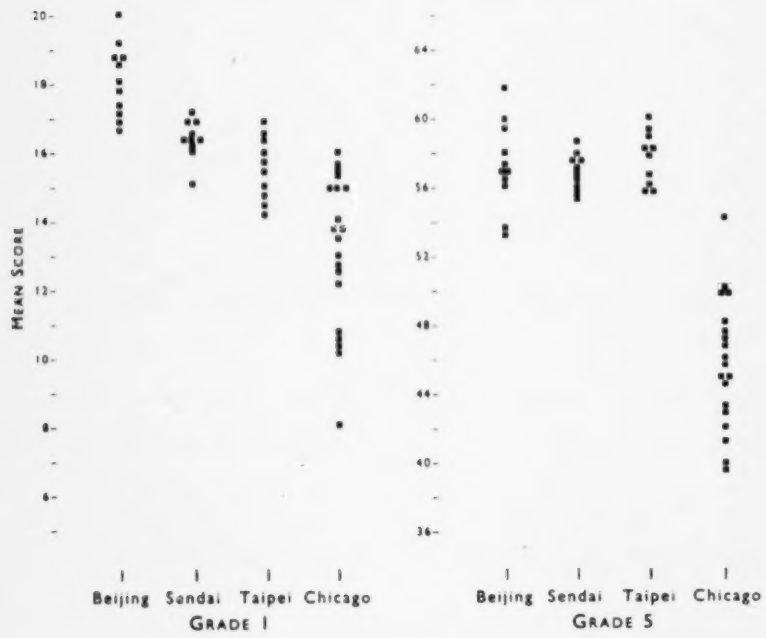
The NAEP examinations also measure writing achievement by asking students to write in ways appropriate to different purposes: *persuasive writing*, such as writing a letter to the school principal taking a stand on whether the school year should be longer; *narrative writing*, such as writing a story about an adventure as a space traveler on another

planet; or *informative writing*, such as describing a typical lunchtime at school. In 1994, two-thirds of fourth graders were unable to provide a "developed" response to any of these tasks. Nine out of ten could not meet the standard for persuasive writing.[22]

Perhaps the most telling evidence of American students' widespread underachievement emerges from a series of case studies of education carried out over more than a decade comparing schools in Minneapolis and Chicago with schools in cities

Figure 1.1

MEAN MATHEMATICS SCORES FOR FIRST AND FIFTH GRADE STUDENTS: AN INTERNATIONAL COMPARISON



The findings of a 1987 study of fifty-one schools in three East Asian cities and the Chicago metropolitan area are sobering. In the first grade, the mean for the highest-scoring American school is lower than any of the Chinese schools and is at about the median for schools in Taiwan and Japan. By the fifth grade, only one American school scored as high as the lowest-scoring East Asian schools.

Source: adapted from Harold W. Stevenson and James W. Stigler. 1992. *The Learning Gap: Why Our Schools Are Failing and What We Can Learn from Japanese and Chinese Education*, New York: Touchstone. p. 35.

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Peril and Promise: Preventable Risks and Missed Opportunities

Beginning about age three, children require much less constant care than infants and toddlers, and they are also, as a group, relatively healthy. And yet, in the years of promise, American children face a range of serious risks and missed opportunities — almost all of them preventable.

Health and Safety

- One in six children under the age of five has no health insurance.
- Accidental injuries are the leading cause of death among children from three to ten — all the more tragic because most of these injuries can be avoided with safety measures such as seat-belts in cars, bicycle helmets, and "child-proof" households.
- Asthma, the most serious chronic disease of childhood, has increased by one-third since 1981. In this time, childhood deaths from asthma have doubled. These increases are related to allergens and pollutants inside and outside the home, as well as to inadequate medical care and lack of education about the disease.
- Youngsters from three to ten are at the highest risk for experiencing child abuse.

Early Care and Education

- During 1995, fewer than half of all three-to-five-year-olds with family incomes of $40,000 or less were enrolled in preschool, compared with 82 percent of children from families with incomes of more than $75,000 per year.
- Fewer than one-half of eligible low-income three-and four-year-olds receive Head Start services.
- No more than one in six three-to-five-year-olds of all income levels attends a child care center that can be considered "high quality."

in Japan, Taiwan, and China.[23] According to these and other studies, American children do not differ from Asian children in their underlying aptitude for mathematics, but their performance falls steadily behind the other groups' performance over time.[24] By the fifth grade, in the sample studied, only one American school's average score was as high as that of the lowest-performing Asian school. A few individual American students do as well as the top-performing Asian students, but they are found less often in the later grades.

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School Achievement

- Kindergarten teachers report that one-third of children entering elementary school — about one million a year — lack basic school-readiness skills.
- One in eight children between the ages of three and twenty-one has been referred for special education services — approximately 5.4 million people nationwide. More than half of those receiving these services are between three and eleven. Many of them benefit substantially from these services, but others are never given the chance to achieve as much as they should. For example, fewer than one in four of the approximately 130,000 children who are in special education in New York City will graduate from high school.
- About 9 percent of children whose mothers did not graduate from high school repeat the first grade. The figure for all children is 5 percent.
- Most fourth graders do not reach standards of proficiency set by the National Assessment of Educational Progress in reading, math, or science.
- Forty-two percent of three-to-five-year-olds are not read to on a daily basis.
- Only 10 percent of schools report systematic communication between kindergarten teachers and early education caregivers or teachers about children who are about to enter kindergarten.

Out-of-School Time

- Many parents are reluctant to admit that they leave their children unsupervised, but estimates of "latchkey" children range from more than 1.5 million to seven million. The proportion of latchkey children begins to rise at age eight. In one survey, 41 percent of parents said that their school-age children are often left alone from the end of school until 5:30 p.m.
- One in four nine-year-olds watches television five or more hours a day.

Has American Education Deteriorated?

Flat lines tell the story. Although American students today are below proficiency levels set by the national assessment, they are doing about as well at mastering the three Rs as their parents and teachers did twenty-five years ago. These results suggest that schools are holding the line academically, despite dealing with the tough challenges of higher child poverty rates, frayed communities and families, and a constant stream of new immigrants. Some groups of children — notably African Americans — are actually doing better than ever before.

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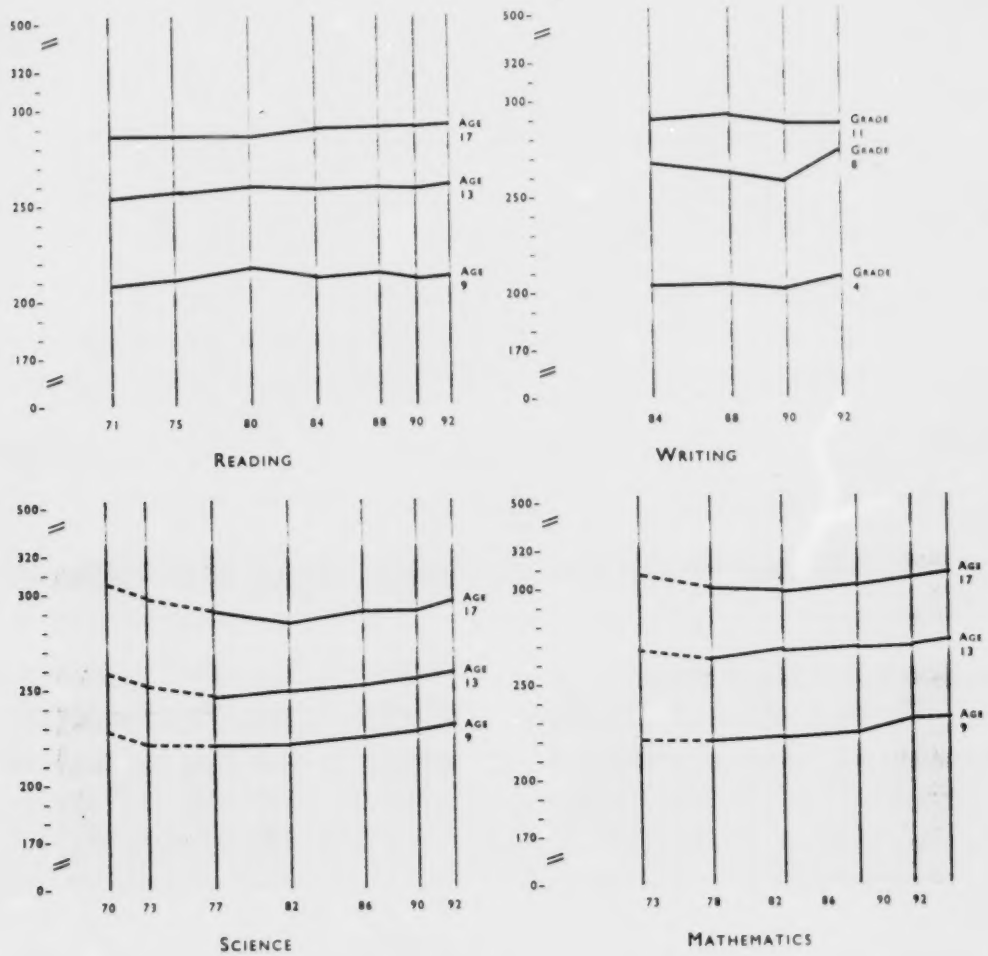
Figure 1.2

NATIONAL TRENDS IN AVERAGE ACHIEVEMENT IN SCIENCE, MATHEMATICS, READING, AND WRITING, NAEP SCALE SCORES, 1970–1992



SOURCE: National Center for Education Statistics. 1994. *NAEP 1992 Trends in Academic Progress: Report in Brief*. Washington, DC. U.S. Government Printing Office.

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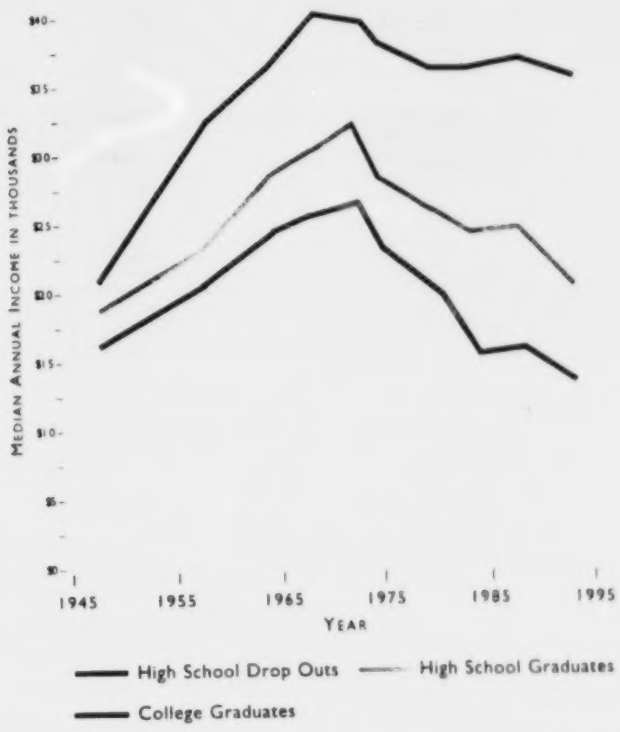
But even these improvements must not obscure the fact that, in the real world of education, the United States is not adequately preparing most of its students for the twenty-first century. No longer can it afford to waste the talents and potential of so many of its children.

The American education system was designed to provide some schooling for all, and by and large it has done so over the years — certainly a historic achievement. But the intention was to prepare most children to hold jobs, raise families, and participate as citizens in a world that relied primarily on physical labor and, by today's standards, simple machinery. The great majority of America's children were educated just well enough to function in that world. The public schools as a whole made no effort to develop most of their students fully; they did not need to and were not expected to.[25]

Because of the nature of the economy and the abundance of national resources, the prosperity of the country could still be sustained with an education system that allowed many young people to fall short of their academic promise, to the extent of excluding some groups from the best educational opportunities because of their race, language, culture, gender, family income, or other reasons having nothing to do with their ability to learn.

Figure 1.3

CHANGE IN MEDIAN ANNUAL INCOME (IN 1992 DOLLARS) FOR 25–34-YEAR-OLD U.S. MEN, BY EDUCATION LEVEL, 1945–1992



SOURCE: Sam Stringfield. 1995. Attempts to enhance student learning: a search for valid programs and highly reliable implementation techniques. *School Effectiveness and School Improvement* 6(1):69.

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"We Haven't Found a Limit to What Our Kids Can Achieve..."

This is how one teacher described rising expectations in a school that has adopted a university-developed comprehensive instructional model:

"The program has changed how our teachers and parents think about themselves and the children. Before, when a teacher was totally dedicated to seeing a student improve, it was extremely frustrating, and often the teacher concluded that it was not her fault; it was the child's. That's natural. It's self-preservation. A teacher can't go home every night believing that she is totally incompetent and keep doing this job.

"With the program's training and materials, teachers started to see the children begin to learn and improve. We began to feel good about our professional capabilities. It changed how we thought about the kids and what they could accomplish.

"As teachers, we continue to be astounded by just how much our students can do. Our expectations for students have risen with every year that they are in the program, and their test scores continue to rise. Every summer I meet with our principal and we look at the numbers and say, 'We need to prepare for the fact that this may be the year when our scores top out: their test results can't keep rising year after year.' But every year we continue to be surprised that even with increased numbers of high-risk students, on-task behaviors continue to go up, test scores continue to go up, office referrals continue to go down. We haven't found a limit to what our kids can achieve. And this has been true not only for our general-education and English-speaking students, but for all our subgroups — the kids with limited English proficiency and others with special needs.

"Teachers want to feel successful, to feel good about what they do. The structure of this program is empowering because it helps us know what to do with particular students to produce measurable results. Some of our teachers are using this new sense of self-esteem and efficacy to question and experiment with other areas of their practice.

"Our parents seem to be changing as well. Seeing their children progress and realizing that they can help has led parents to demand more and to question things more."

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But today, while the essential purposes and results of public education have remained fairly constant, the requirements for ensuring future prosperity and for strengthening and renewing our democratic society have changed dramatically. Even though they may have attained the same level of education as their parents, young people entering the workforce with no more than a high school diploma today are finding fewer and fewer living-wage jobs.[28] Without plentiful good jobs, there are fewer stable families than there were in past generations, and there are higher levels of stress, violence, and crime.

The Circle of Blame

Today, Americans are beginning to see the drastic shortcomings of an education system that has been geared to the academic success of some but not all. They see teachers who are poorly prepared to address the educational needs of the diverse students in their classrooms and who, unlike their Japanese and European counterparts, are denied the time and opportunities to improve their teaching skills. They see tax dollars spent unwisely or distributed unfairly. They worry that the nation could slide into economic insecurity and even social disorder if their children are ill-equipped to meet the demands of the new century. Some may conclude that the problems are just too big, too costly, and too overwhelming to counteract or reverse.

As the nation's confidence in its education system slips, there has been a tendency to play a blame game. Parents blame schools for not teaching, and teachers blame parents for not preparing their children to learn. School administrators blame poorly prepared or half-hearted teachers, and teachers blame remote and uninformed administrators. Religious groups blame families and schools for failing to educate children, and schools wonder why they are not getting more upright students. Parents and educators look to business to provide enough jobs at an adequate wage, and business wonders why families and schools seem unable to provide young people with the attitudes and skills they need to hold a job. Meanwhile, the media target the culprit of the month, and everyone blames the government.

Today, Americans are beginning to see the drastic shortcomings of an education system that has been geared to the academic success of some but not all.

Schools may have the primary responsibility for children's formal education, but their educational success is influenced by far more than what happens to them in school. Families, preschools, religious and other community institutions and, beyond these immediate influences, the broader array of institutions that bear on children's lives — the media, employers in all sectors, higher education, and government — have a shared responsibility to contribute to children's learning and healthy development. When a single child fails to achieve, all of

these institutions are likely to be at fault. All of these institutions, therefore, must now ask themselves how they can help to reverse the pattern of underachievement among the nation's children and bring our education system into line with our national need for a wholly educated population.

The first step is for the key learning institutions to change their basic assumptions about the quality of work that children of diverse backgrounds can be expected to produce.

Dealing with the Stacked Deck

While the majority of American children are not achieving as much as they could, children in poverty are at even higher risk of educational failure. Most poor children in America are white, but poverty occurs disproportionately among African Americans, Latinos, and Native Americans. Thirty percent of all fourth graders reached the NAEP "proficient" standards for reading in 1994, but only 9 percent of African American children and 13 percent of Latino children did so.[47]

Some of the reasons for the lower achievement of children in poverty are obvious. Not only are their educational trajectories largely set by their family's income and by their community's resources and commitment to educating them, but they are prone

to a wider range of preventable risk factors. For instance, children from low-income families are at significantly higher risk of experiencing serious illness or injury that causes them to miss school days and that in other ways impairs learning.[28] By the same token, they have less access to medical and health care programs that might prevent or treat such chronic problems as asthma effectively.

Moreover, compared to children from more financially secure families, low-income children are much less likely to have access to high-quality preschool programs, a rigorous, enriched elementary school education, and stimulating after-school programs to supplement their classroom learning.[29]

Poverty can have a more subtly destructive impact on the way children are perceived, taught, and evaluated in school. Research repeatedly points to differences in the ways that children of low-income households or neighborhoods and those of more affluent families are treated. Studies show, for example, that teachers tend to have lower expectations for children perceived to be from impoverished backgrounds and to pay less attention to them.[30]

Poor children typically attend schools with far fewer fully qualified teachers.[31] One study found that kindergarten teachers in low-income schools were less likely than those in middle-income schools to coach children in the "game of school" — showing them how to gain a teacher's attention in a positive way, how to hold to classroom routines, or how to adopt successful learning strategies.[32] Some elementary teachers in the low-income schools said they were more likely to reward with high marks children who "work but don't talk out" and to give low marks to children who are "talkative."[33] Teachers in the middle-class schools were more likely to tolerate talking as long as it did not disrupt the flow of classroom activities. Conversation was seen as an important interaction that helps children learn.

Many poor children from diverse backgrounds have managed to succeed in school despite the obstacles they encounter. More often than not these children have benefited from the sustained attention of institutions and individuals committed to their success and from programs that have been shown to promote healthy development. Poverty certainly can and does impede children's learning, but poverty in itself is not an insuperable obstacle to school success.

The Power of Effort

Children obviously do differ from each other. They differ in temperament, abilities, disabilities, and kinds of intelligence. Some run faster, draw better, or sing more sweetly than others. Some of these differences appear to be inherited. But too frequently the simple fact of human variability has been extended or interpreted to suggest that there is a preset, measurable limit on what each child can hope to learn and accomplish — a limit that is fixed by heredity or family background and that is virtually impervious to teaching. This belief is simply wrong. When it is applied

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to whole groups of children on the basis of language, race, or ethnicity, it is not only wrong; it is racist. The fact is that differences among children predict little about what they will be able to achieve, when they have the right motivation, attention, and support.

Low expectations for what children can know and be able to do hurt children in many ways, but perhaps most cruelly by denying the power of strenuous effort. They excuse children from the hard work needed to grapple with difficult material. They excuse parents and teachers from the considerable exertion required to motivate and teach every child.

Studies showing the malleability of IQ scores, cognitive research on the way children learn, the experiences of particular schools and programs, and international comparisons all show that children can learn to higher levels than is often predicted for them.[34]

Evidence from the exhaustive study of elementary education in Japan, China, and the United States, mentioned earlier, is that higher achievement in the Asian countries stems, at least in part, from a belief in the power of effort — on the part of both teacher and student. This belief pervades the organization and work of schools in those countries. Again and again, in surveys of parents and teachers, in the testing of children, and in direct observations of classrooms, the prevailing assumption in the Asian schools is that virtually every child will do well in school, given enough time, instruction, and support.[35]

Perhaps the most persuasive evidence is the track record of the many schools that have succeeded, under the most harrowing circumstances, in educating children to much higher levels. If in similar circumstances even one school succeeds where others fail, then the determining factor must be the efforts exerted by the school and its partners — not the inherited abilities of its children. As Ronald Edmonds wrote in 1979, "How many effective schools would you have to see to be persuaded of the educability of poor children?"[36]

Low expectations for what children can know and be able to do hurt children in many ways, but perhaps most cruelly by denying the power of strenuous effort. They excuse children from the hard work needed to grapple with difficult material. They excuse parents and teachers from the considerable exertion required to motivate and teach every child.

Low expectations of children are not simply a product of uncaring or bigoted people; they are built right into the system. In some cases teachers may expect little from their pupils because they have not had the opportunity, in their professional education or in their in-service training, to learn about more successful approaches to teaching. Overcoming damaging myths about children's aptitude requires change throughout the system. It means expecting all children to master the same ambitious content while recognizing that individual children will progress by different routes and at different rates.

Evidence of the efficacy of good teaching now comes not only from classroom experience and assessment data, but also from the field of cognitive science — the study of how our minds work, how we think, remember, and learn. In numerous laboratory and classroom experiments, cognitive scientists have shown that, by studying closely how children learn and by altering teaching techniques based on that analysis, it is possible to produce dramatic improvements in the learning of even very low-performing students.[37] The reading programs described further on in this report are examples of how some efforts, informed by the findings of reading research, have substantially increased children's reading achievement.

No single program or strategy can be expected to cure all of the nation's educational ills. What *can* work is paying close attention to how children learn, redesigning instruction based on those observations, and then testing the effectiveness of the redesigned methods and materials. These methods can and should become a standard part of all educational practice. If applied systematically and intensively, such a process can overcome to a large degree the problems that individual children may bring to their schooling.

Creating the Circle of Responsibility

It is time now to move from a circle of blame to a circle of responsibility, in which the resources of the nation are mobilized to meet the educational needs of all of America's children. In *Years of Promise*, the Carnegie Task Force on Learning in the Primary Grades proposes a way to assure children's optimal educational development — a comprehensive learning strategy that entails a far-reaching collaboration of the key institutions of society that most influence children's learning.

If we fail to keep the promise — if we continue to focus on the most fortunate youngsters and leave the rest behind — the costs to our society in human distress, lost productivity, crime, and welfare, and in the fraying of the nation's democratic ideals, will be unbearable. The choice is ours.

Implementing a comprehensive approach to children's learning from three to ten will require a national commitment — one that includes current school reform efforts but that is much broader in scope. It will require every sector of our society and every pivotal institution to assume responsibility for seeing that every child learns to a high standard, with no exceptions and no excuses. It will require every individual within each sector and institution to take personal responsibility for doing what it takes to support children's learning. Beyond this, the strategy will require families, community institutions, preschools, elementary schools, afterschools, and the media to link together in a circle of responsibility to make sure that *all* children emerge from their first decade of life as competent, confident learners.

It is within the nation's power to accomplish these results for children. If we fail to keep the promise — if we continue to focus on the most fortunate youngsters and leave the rest behind — the costs to our society in human distress, lost productivity, crime, and welfare, and in the fraying of the nation's democratic ideals, will be unbearable. The choice is ours.

Part II

EVERY CHILD CAN LEARN

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Elements of a Comprehensive Learning Strategy

Children learn in every waking hour, wherever they are, whatever they are doing. To be sure, families and schools bear the greater burden of responsibility for children's healthy development, and they exert the most powerful influence on their learning. But as children grow, they come under the sway of many overlapping spheres of influence — a constellation of informal social ties and formal supports within a community that encompass not only households and schools but extended families, peer groups, preschools, community-based programs, health services, religious institutions, parents' workplaces, and the media. Each has its own distinct "culture" and its own particular impact on the experience of learning. Each can be informed and strengthened by the most effective practices in its particular field.

The next four chapters of this report focus on the core institutional influences on children in the years from three to ten — families and communities, preschools, and elementary schools — while also examining the increasingly pervasive impact of television and other electronic media on children's lives. There are practices within each of these spheres of influence that have been evaluated and that are known to foster children's learning or show promise of effectiveness beyond the level of experiment or demonstration. What needs to happen now is to put this knowledge and wisdom to work, within and across the sectors, on a large-enough scale to make significant improvement in children's educational achievement and in their healthy development.

The report closes with an action strategy for creating a comprehensive learning system for children. In this time of profound social and economic transition, no single institution can realistically be held fully responsible for ensuring the education of children as they move from early childhood to early adolescence. The action strategy calls for each major institution that contributes to children's learning — families in the context of communities, preschools, elementary schools, and the media — to align their efforts more consistently with the common principles of effective practice outlined below.

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The strategy also calls upon the institutions in this "ecology of learning" to reach beyond their traditional isolation from each other — to find new ways and create new mechanisms to link and coordinate their work so that children's learning and healthy development are reinforced from every side. Even if these institutions do not link with others, they can still contribute positively to children's education independently. The failure of one to do its job effectively, therefore, is no justification for the others to slacken or falter in their own efforts.

Common Principles of Effective Practice

The conceptual framework for educating three-to-ten-year-olds advanced here is based on the Carnegie task force's two-year study of the programs and practices that are already being implemented by key institutions and that are producing successful results for diverse groups of children. Out of this work the task force has derived a set of common principles of best practice. These are offered here as a guide for considering what each institution can do to educate all children well and how these practices fit together.

Some might argue that these principles apply only selectively to particular institutions, depending on their primary function. It is generally accepted, for example, that elementary schools should set high standards for children's learning. But it may be less obvious to Americans that parents, child care providers, basketball coaches, librarians, and even television producers should also articulate high expectations for children. It is also generally agreed that children need continuity in their home life and that revolving-door parents undermine children's academic achievement. But people may be less aware that constant staff turnover in a preschool or after-school program also undermines children's educational success.

The task force believes all the frontline institutions in children's lives should begin now to incorporate these principles into their practices and policies. To varying degrees, the family, community agencies, preschools, elementary schools, and the media all can:

- **Ensure, from the start, that children are ready to learn, physically and emotionally.** They can work to see that children are safe, healthy, well-nourished, and free from debilitating anxiety.

- **Set high expectations.** They can set and communicate high expectations for every child, including children with special needs.

- **Offer varied, engaging, effective learning activities.** They can provide a range of challenging learning opportunities, reflecting the fact that different children learn in different ways. These activities should be based on the best available knowledge of effective teaching practice and help children draw connections between these activities and their everyday lives.

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- **Help children build stable, trusting relationships with adults.** They can create secure, stable, predictable environments for learning in which every child is known well by at least one adult.

- **Respond quickly when problems arise.** They can observe every child's progress on a continuing basis, so that when problems occur, intervention is immediate.

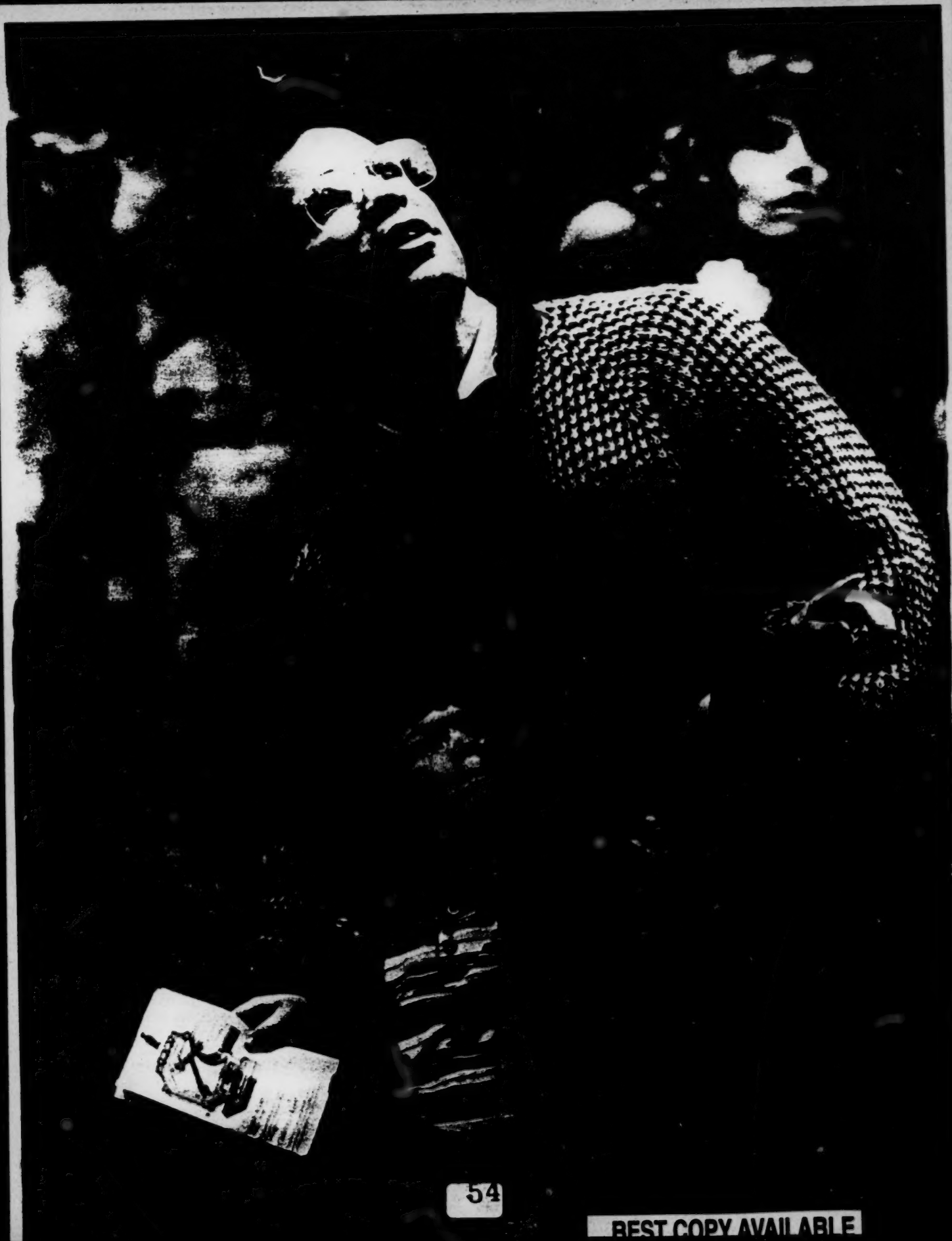
- **Support the adults who influence learning.** They can provide ongoing education and support for all adults, beginning with parents, who influence children's learning. This means providing anyone who works with children — teachers, caregivers, counselors, activity leaders, coaches — continuous professional development designed to improve results for children.

- **Make efficient, equitable use of resources.** They can deploy resources fairly and efficiently, based on the premise that different children will need different levels of time and resources to achieve adequate results. Programs or practices that do not prove to be effective in helping children learn should be discontinued.

- **Collaborate with other institutions.** They can make conscious, sustained efforts to link with other institutions, agencies, or programs that affect children's learning or have potential for promoting learning.

- **Take responsibility for results.** They can document children's progress toward meeting expectations, analyze the factors that promote or hinder learning, and make the changes needed to improve results for all children.

If the core institutions discussed in this report were to apply these principles across the board and take steps to coordinate their approaches, these measures would significantly boost children's educational achievement. But to accomplish these goals, they will need the backing of school districts, county, state, and federal governments and the other sectors that have a powerful impact on what these essential institutions are able to do. The circle of responsibility must be expanded. Only then can our nation's educational underachievement be reversed.



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Chapter 2

Learning in Families and Communities

The park empties and the swings are finally still. At day's end, American children go home to many different kinds of households — a fourth-floor walk-up, a garden apartment, a split-level, "daddy's house," a new foster home, or grandma's and grandpa's. But wherever there are children, home life tends to be cluttered and complex. Doors swing open and slam shut; dishes pile up and laundry accumulates; shoes and keys disappear; refrigerators mysteriously empty, and the baskets that collect household bills just as mysteriously fill up. Meals are thrown together, and ringing telephones punctuate dinner conversation on those rare occasions when family members manage to eat together. Television or radio accompanies virtually every activity. In the midst of this environment, children from age three to ten gain their first glimpses of how ideas, attitudes, expectations, and feelings are communicated, or stifled; how goals are set and tasks are planned and completed, or abandoned; how conflict is negotiated, or ignited; and how their parents respond to — or overlook — their evolving needs and interests.

Family: A Wellspring of Learning

Any thought of how the institutions that shape children's lives can improve educational achievement must start with families. Families are the first and most important influence on children's learning and development and have the most enduring impact on their life course. *Starting Points*, Carnegie Corporation's 1994 report on meeting the needs of the youngest children, stressed that healthy development depends primarily on the kind of care and nurture that parents provide and on the kind of settings they create for children's growth and learning.

During infancy and the preschool years, parents contribute to their children's later success by maintaining a warm, supportive, and stable relationship with them, while setting firm limits. In this way, they build a foundation of trust, self-esteem, and intimacy and foster a sense

of belonging. But the importance of parents' job as first teachers does not end there. Research has repeatedly demonstrated that the intellectual growth of young children depends to a great extent on the interactions they have with their parents or caregivers — in particular the verbal interplay that takes place in the context of an affectionate relationship. Parents or other caregivers can help develop children's curiosity, language acquisition, and learning in other ways as well — by maintaining a stimulating home environment; making available a variety of reading materials, educational toys, and games; reading aloud to them; or posing questions that elicit more complex responses than a simple "yes" and "no." These practices have been shown, over time, to enhance achievement.[1]

Research has repeatedly demonstrated that the intellectual growth of young children depends to a great extent on the interactions they have with their parents or caregivers — in particular the verbal interplay that takes place in the context of an affectionate relationship.

As children master new skills, stretch their attention span, and begin to explore and expand their world, the most exciting game for them is one that leads to solving a problem. Parents can help develop their children's imagination, memory, and problem-solving abilities by asking them to recount the day's events, encouraging them to express their thoughts and feelings, and challenging them to think about "what would happen if you tried to slide up the slide instead of down?" or "what happened to the water as it drained out of the bathtub?" As they read aloud to their children, parents can ask them to describe what is happening in the picture, to retell part of the story, to guess what will happen next, or to imagine how one of the characters in the book — say, the old woman or the kitten or the moon — might tell the story.[2]

Children often delight in being taken on outings to parks, libraries, museums, and children's events and taking part in regular family chores, especially if their parents make a game of sorting the laundry, picking out cherry jello at the supermarket, or washing the car. As the family sits down to watch television, children can learn more and develop their critical faculties if parents engage them in discussions about what they have seen.

By the time they reach the ages of three, four, and five, most American children spend large portions of the day in out-of-home care and early education, and they may startle their parents by coming up with idioms or ideas that are clearly not home grown. As their children move back and forth between their homes and outside settings, parents continue to play a strong role in their learning. According to studies of Head Start and other early education initiatives, children make more substantial, durable gains when their parents or other primary caregivers take an active interest in their preschool life, visiting the center, observing the children, and talking with the teachers.[3]

When children reach elementary school age and venture further out into the world, they spend more time at other children's homes, putting more store in their teachers' or coaches' opinions and becoming more preoccupied with how they fit in with their peers at school or on the block.[1] Some parents may worry that their influence is eroding, that their children are slipping away from them. There should be no confusion on this point. Throughout the age span from three to ten, the home remains a wellspring of learning and a critical filter through which children interpret the experiences and information they bring back from Ms. Matthews' class or Memorial Park, Ramon's house or the Playland arcade.

Recent studies of families whose children succeed particularly well in school have identified the practices that have a positive impact on children's learning, regardless of parents' income, educational level, or native language.[2] Virtually all of these practices can be taught — for example, in parent support and education programs.

When parents create a home environment that encourages learning, when their expectations for their children's performance are aligned with high standards set at school, and when they become actively involved in their children's education at school and in the community, their children earn higher grades and higher scores on achievement tests than do those whose parents are uninvolved. They have better attendance records, more completed homework assignments, fewer referrals to special education, more positive attitudes and behavior, higher graduation rates, and greater enrollment in postsecondary education.[3]

After children enter school, their language development and reading achievement continue to be substantially enhanced by the opportunities for learning they find at home.[4] Parents who join workshops that show how they can support and become partners in their children's math education in the hours at home, for example, can help to boost their children's performance. Whatever the subject or content, parents exert a primary influence on children's motivation to learn.[5]

Large-scale studies have shown that parents' own income and level of education are powerful predictors of children's educational achievement, but neither a wall of diplomas nor an impressive salary can guarantee a child's academic success, particularly if home life is subject to the stresses of depression, overwork, or divorce. Nor does a parent's spotty educational history or a scanty paycheck doom a child to poor achievement. Numerous studies of individual families show that what parents *do* with their children is important for students' success, whether the family is rich or poor, whether the parents finished high school or not, or whether the child is in preschool or the upper grades.[6]

All Families Need Help

Fortunate indeed is the child of promise who receives a steady supply of informed and caring attention from parents. But many parents of every description, in every sector of our society, are short on time and long on stress. For many parents in the inner cities, the conditions of poverty, social

Parents Can Help Their Children Succeed in School

Parents can help their children become confident, competent learners by letting them know that they value education, that they expect them to succeed in school, and that they will do everything in their power to help them meet these expectations. Parents can show that commitment by:

- Reading with their children. Children whose parents read to them consistently and from an early age are more likely to succeed in school. Even very young children come to anticipate phrases and events in favorite stories, as every parent who has skipped a word in an often-repeated story knows. Children and parents can chat about the people and places they encounter together and can engage in imaginative play that springs from the stories. Family reading can continue as children grow older and learn to read themselves: parents and children can take turns reading to each other.

- Using everyday occurrences to enrich school-based learning. Cooking, for example, provides many opportunities for learning simple and complex concepts that may then be applied to mathematics and science — measuring and mixing ingredients, comparing shapes and volume, and following instructions. A preschooler can help to sort the groceries as his parents unpack the bags. As her parents undertake repairs around the house, a school-age child can make and record measurements, estimate how much paint will be needed, or draw a floor plan.

- Promoting a smooth transition from preschool to school. Only one-third of elementary schools now organize orientation visits for all entering kindergartners and their parents. If local schools do not offer such a program, parents should arrange individual visits. They can also ask their child's preschool teacher or program director to contact the new school, in writing or by phone, to let them know about the child's educational strengths and needs.

- Understanding and reinforcing high standards. Children fare best when there is a good fit between parents' expectations and the school's standards. Parents should talk to their children's preschool teachers about the kinds of skills that each child is expected to master and then

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encourage their children to meet these standards. Once a child reaches the primary grades, there may be a mismatch between the family's standards and those of the school: a child needs to know that her parents and the school expect great things of her. Helping a child to develop good homework habits will go a long way toward enabling her to meet these standards — many parents establish a "homework before television" policy and ensure that their children have a quiet place and time to do their homework every day.

- Talking with their children about each day's classroom experience and asking to see any notices from school. When a child comes home, her parents tell her something about their day, and then ask about hers. Is a special activity coming up? Did she bring any notes home? Did a music or art teacher come into the classroom? Did she play outdoors? What was the best part of her day? This kind of informal review of the day is important for all children, but it may be especially helpful in giving bilingual children a chance to integrate their school and home experiences. Extracting such information requires a certain vigilance, persistence, and good humor.

- Establishing appropriate routines at home. Young children need a lot of sleep — from nine to twelve hours a night, depending on age and individual needs. Many children, however, are dropped off at early-morning programs and stay in after-school programs until 6:00 p.m. or later, and many parents work late, so consistently early bedtimes are hard to enforce. In these situations, even older children may benefit from an after-school "quiet time" or nap. Children benefit from familiar bedtime routines, as well as a set of predictable early morning getting-ready-for-school activities.

- Visiting school as often as possible. Coming to school is the best way for parents to know what their children are experiencing day to day and to have an effect on their education. When children see their parents at school, they know that their parents care about their education and about them. Schools must make it easier for working parents to participate in their children's education; evening and Saturday hours for teacher's meetings would be one way of doing this.

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Family Math

Everyone in a family — children and adults — can succeed in mathematics, no matter what language they speak or what racial or socioeconomic group they belong to, if math is presented in a meaningful, enjoyable way, and if family members can work together to pose and solve problems. This is the premise of Family Math, a program whose courses have, over the past fifteen years, involved a quarter of a million people of all ages.

Founded in 1981, Family Math grew out of EQUALS, a teacher education program designed to promote gender and race equity in mathematics education. Family Math links home and school by giving families access to a high-quality mathematics education. The classes are usually taught by a teacher–parent team and are organized by grade level, from the preschool years through high school. They meet in the afternoons or evenings for two hours a week, over a period of four to eight weeks, using local schools, churches, and community facilities. The activities are hands-on projects that illustrate or use basic mathematical concepts. They are designed so that an adult and a child can work on them together. Tasks like measuring, estimating, or visualizing spatial relationships help children and adults relate math concepts to their daily experience. The emphasis is on cooperative problem solving, the development of communication skills, and creative strategizing. Family Math is designed to supplement the school curriculum. It covers such topics as arithmetic, geometry, probability and statistics, measurement, functions and relations, the use of calculators, and logical thinking. Because teachers from the community take a leading role in Family Math, it is easier to match Family Math activities with what the children are doing in school. Materials are provided, except for common household items such as beans or toothpicks.

The program's two-day leadership workshops prepare educators, parents, and others to become more effective partners in helping children succeed in math. Workshops, which are offered across the nation, are conducted in English, Spanish, and a number of other languages. The courses

isolation, and violence that threaten them and their children make it difficult to assure their healthy development, unless they manage to get help.

Knowledge of child development and child health, and of the different ways to create a home environment conducive to learning, does not come naturally. It never did. It used to be shared more frequently around the kitchen table or across the backyard fence, but as Americans have become more mobile and extended families more scattered, timely assistance and sound advice are harder to come by. As a result, many of today's young people may get less informal help and advice in the care and upbringing of children than previous generations did. Many parents are confused about how to balance work and families, and they are perplexed about how best to guide their chil-

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and workshops are available in almost every state as well as in Washington, D.C., Canada, Costa Rica, New Zealand, Puerto Rico, Sweden, and Venezuela. Family Math has been successful because instructors and volunteers work hard to adapt program activities to the culture, interests, and needs of the local community.

Family Math seeks to increase the involvement of underrepresented groups in mathematics. Each Family Math teacher is responsible for linking the study of math to career possibilities, calling upon role models from the community whenever possible. Other program goals include involving parents more deeply in their children's schooling, creating a supportive learning environment, and modeling a collaborative style that parents can use to help their children succeed in other subjects and other settings.

Evaluations show that once parents participate in a Family Math class, most continue to attend. Surveys suggest that 80 to 95 percent of adult participants use the activities at home and become more involved in their children's math education. Family Math changes both children's and adults' attitudes toward math from dislike to cautious acceptance and finally to enjoyment over the span of only four weeks. By providing opportunities for teachers to collaborate with parents, the program has strengthened home–school relationships. In many cases, it has also boosted parents' self-confidence, opened new lines of communication within families, and energized frustrated teachers.

Family Math, a book based on the program, has been a bestseller since its publication in 1986. It features activities for families to do at home and shows readers who do not have access to the leadership workshops how to conduct classes on their own, including the nuts and bolts of publicizing classes and recruiting participants.

dren's education. Those deprived of a good education or barely out of childhood themselves need help most of all, but American families of every description could benefit from such wisdom and support.

The Role of Parent Education in School Readiness

With the traditional networks seriously weakened, other institutions and organizations of society — schools, churches, family support groups, health care organizations, nonprofit organizations, and other sponsors — are increasingly stepping in with programs to help young mothers and fathers build parental competence and strengthen family coping skills. These programs fill gaps in services and buffer the effects of stress. Some programs focus exclusively on parent education — the specific knowledge and skills

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needed to protect children's health and safety and enhance their learning. Others provide a more comprehensive range of family support services designed to strengthen parents' ability to care for themselves and their children. Some programs target teenage parents or those considered at risk of abusing or neglecting their children. A few programs also provide parent employment training and counseling. Parents in response have shown they are eager for the information, advice, and support.

A growing number of family support and parent education programs are designed to help mothers, fathers, and other caregivers become stronger partners in their children's intellectual development, school performance, and social functioning. While such programs generally focus on the early childhood years, others follow children from the prenatal period to elementary school; still others cover a single year, like the parent education built into most Head Start programs.

There are numerous exemplary programs serving families with children in the three-to-ten-year age span. Evaluations have shown that they enhance children's cognitive development and achievement as well as their attitudes toward school. Some of these programs are national in scope; others are limited to individual states; all are designed

to give parents and families the resources and skills they need to achieve better results for their children.[10]

- The Home Instruction Program for Preschool Youngsters (HIPPY), a national program, serves parents of four- and five-year-olds in more than 200 communities in twenty-three states. Twice a month over a two-year period, families who take part are visited at home, where they are introduced to a curriculum of activities to follow up with their children. A study that followed children participating in Arkansas' HIPPY until grade ten concluded that HIPPY has a positive, sustained impact on achievement and adjustment in school.

- Kentucky's Parent and Child Education (PACE) program is designed to increase the educational expectations and aspirations of parents for their preschool children while raising parents' own educational levels and improving the learning skills of their young children. A parent–child education component focuses specifically on teaching the parent how to help children learn. A 1987 study of children enrolled in PACE found that these children demonstrated an average 28 percent increase in developmental abilities as measured by the High/Scope Child Observation Record.

- Even Start, which began as a program of the U.S. Department of Education, integrates early childhood education and adult education for parents, including literacy training, in a unified program. The program is usually run by a local school district, with some part of it home based. Since 1992, administration of the program has been turned over to the states. To date, 240 school districts across the nation have received Even Start grants. Evaluations have shown that the program has positive short-term effects both on children and adults when it is implemented intensively, and that the extent to which parents take part in parent education is positively related to gains in children's vocabulary.

- Minnesota's Early Childhood and Family Education (ECFE) program aims to support the ability of all the state's families to provide the best possible environment for the healthy growth and development of their preschool children. Tailored to community needs, it offers a variety of services including parent discussion groups, play and learning activities for children, early screening for health and developmental problems, and a library of books, toys, and other learning materials. Kindergarten teachers have reported that children from ECFE are better prepared in basic skills, have more positive attitudes towards school, and have more confidence and social skills than those who have not benefited from such a program.

- Avance, founded in Texas in 1973, serves low-income Mexican American families and their young children. It offers classes for parents, child care for the children, and in-home visits from

educators. It also concentrates on easing the transition between culturally sensitive community programs for preschool children and the more formalized elementary school setting. Evaluations show that parents benefiting from the program provide more educationally stimulating and emotionally supportive home environments for their children; they use less restrictive and punitive discipline and make greater use of community resources.

- The MegaSkills Program, which offers workshops for parents to help them carry out learning activities at home, has trained more than 4,200 workshop leaders from forty-five states. Evaluations of children whose parents have received MegaSkills training show improvements in the children's achievement test scores, time spent doing homework, and time spent with parents.

Many family support and parent education programs are too new to draw firm conclusions about their benefits to children over time. Multifaceted programs are hard to evaluate because they provide such a wide range of services to parents, children, and other family members that it is difficult to discern which program activities are affecting children's learning.

Nonetheless, the results of programs that stress home intervention can be impressive. A number of long-term studies have found that preschoolers whose parents took part in home-based family support programs registered gains in their IQ scores that persisted into elementary school.[11] Even if these gains faded after several years, the children tended to have higher achievement scores than they would have otherwise, and they were much less likely to be placed in special education classes. In short, the boost they received from parents during the crucial "school-readiness" years appears to have contributed to their subsequent achievement.

Unfortunately, at present, good programs for parents wanting to help their children's learning and social development are too thinly scattered around the nation. Ways must be found to scale them up into a larger network of robust, coordinated programs provided under a variety of auspices — religious organizations, schools, social service agencies, and health care institutions.

Encouraging Parental Involvement in Schools

American parents tend to be quite involved in their children's education during the primary grades. About 70 percent of parents report moderate-to-high participation in the school activities of their eight-to-ten-year-olds.[12] But evidence is that parents become progressively disengaged from school as their children approach adolescence. Low-income parents have much less contact with schools than do middle- or higher-income parents.[13] The drop in parental involvement as their children move through the grades, particularly among low-income parents, is cause for concern.

A child's entry into kindergarten offers a perfect chance for principals and teachers to welcome families into the school community and engage them in its work. Most ele-

Joining Forces to Strengthen Communities and Improve Schools

Over the past five years, two large organizations dedicated to social change through community empowerment have joined forces in an initiative to improve student achievement in low-income communities in the Southwest. The two organizations are the Industrial Areas Foundation (IAF), a national network of broad-based, multiethnic interfaith organizations located primarily in low-income communities, and the Texas Interfaith Education Fund (TIEF), which is dedicated to grassroots school reform efforts.

Created more than half a century ago by Saul Alinsky, the IAF provides training for more than forty community-based organizations representing nearly a thousand institutions and more than a million families nationwide. The IAF sees community organizing as part of a larger effort to revitalize local institutions and rebuild a civic culture in which ordinary citizens take part in public life, begin to take ownership of their neighborhoods, and shape the public decisions that affect their families. The IAF adheres strictly to the "Iron Rule": never do for others what they can do for themselves.

The Texas Interfaith Education Fund shares many of the core commitments of the IAF, but it focuses more intensely on developing leadership for local school reform. Its education coordinators work through churches and broad-based organizations to identify leaders within the community; it then provides ongoing training for these leaders as well as for other parents, teachers, and administrators. Churches play a key role because they are often the only institutions with which members of disadvantaged communities, especially in predominantly minority communities, maintain supportive ties. Congregations often provide a more neutral environment than schools in which to develop leadership skills and begin involvement in public life. Education coordinators hold regular meetings and training sessions in churches, schools, and homes.

The IAF/TIEF initiative involves 185 public elementary and middle schools and hundreds of thousands of parents and neighbors in low-income communities throughout the Southwest. The goal is to create a strong community-based constituency of parents, teachers, and community leaders that can work together to improve student achievement dramatically. The effort proceeds from the conviction that public schools must be embedded in communities and must be guided by truly collaborative leadership teams that involve parents, teachers, principals, and officials as decision makers of equal weight and stature.

Over five years, the initiative has bolstered students' academic achievement, increased parent involvement, and significantly boosted attendance rates. Participating schools have had fewer faculty transfers and have developed programs and services that extend beyond the usual bounds of school reform, including after-school and summer enrichment programs, community policing efforts, and wider access to health services.

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mentary schools do not seize this opportunity. Less than half involve parents in classroom activities designed to ease children's transitions to school, and only one-third schedule visits for all children and parents before the first day of school. Schools that overlook this crucial juncture are also forfeiting a chance to get children off to a good start, for when schools involve parents in transition activities, fewer children have difficulty adjusting to kindergarten.[14]

Recognizing the important role of parents in schools, more states' education reform initiatives are mandating their inclusion in decision-making bodies at each school. Head Start requires that an elected committee of parents have a major voice in program decisions. Some federal and state education funds, especially those targeting low-income children, now require parental involvement in an advisory committee.

More parents are also being encouraged to get involved in their children's education by networks like those developed by the Southwest regional offices of the Industrial Areas Foundation. The foundation helps parents and community members in moderate- and low-income neighborhoods to become effective advocates for themselves and their children, often with school reform as the issue that first engages their efforts.

The Family Embedded in Community

Today, one-fifth of American families move each year, in search of more appropriate housing, better jobs, or more opportunity. Because their families are growing, parents with young children are even more likely to move than other Americans.[15] At least half of children today are spending some part of their childhood living with one parent, either because their parents have divorced or because they were born to single mothers. Fifty-five percent of mothers with children under age three are working outside the home, a figure that rises to 64 percent for mothers of three-to-five-year-olds and 74 percent for those with school-age children.[16] Many parents are working longer hours than ever before,[17] and 40 percent of all parents worry that they are not devoting enough time to their children's learning.[18] In these times of wrenching social change and economic uncertainty, therefore, families everywhere need all the help they can get from individuals and institutions in the community.

When parents lack the time, resources, health, or peace of mind to provide consistent nurture, children can still manage to develop into confident, competent learners, with no serious behavioral problems, especially if they have the opportunity to establish a stable, close bond with at least one adult — a grandparent, a friend's parents, a teacher, a coach, a "big brother" or "big sister."[19] Their prospects are also appreciably enhanced when they receive guidance and emotional support from an adult-led community group, such as a religious group, an after-school program, a health clinic, a social service agency, a recreation department, or a boy or girl scout program. Sturdy social networks such as these can undergird families, relieve parental distress, and provide children access to vital community resources.

But even these informal ties, where they function in a community, are not enough to provide families with children the full range of supportive services they need. For this, children must be surrounded and buoyed up by a strong, well-planned, and coordinated set of formal *and* informal institutional relationships, linking families with schools and connecting them to human services and enrichment opportunities for children. When all of these institutions work together, engaging concerned adults in setting high expectations for children and doing whatever it takes to see that they are met, all children can achieve to much higher levels.

Community-based Services for Children

The general lack of comprehensive community-based supports for children and insufficient integration of existing services, however, represents one of the steepest barriers to children's learning and healthy development in their years of promise.

Publicly Funded Services. Among publicly funded agencies and programs, fragmentation remains an immense problem, hampering service delivery, information sharing, and follow-up. In Oregon in 1992, for example, such services were spread among 238 programs housed in thirty-seven agencies.[20] Supported by diverse funding streams, different programs are regulated by different agencies and respond to individual constituencies. Given their histories and different missions, it is no easy job for them to reach consensus on the results they hope to achieve for children. In most cases, there is very limited communication or cross-training and only minimal coordination among them. This is not only inefficient; it makes it very hard for families to take advantage of opportunities for their children. When services are highly fractured, children's needs tend to be overlooked: they may go without replacements for broken eyeglasses or miss immunizations, or they may remain in settings where they are unsafe.

Community Councils. Many states and localities have created new entities charged with looking after children's learning and long-term success, such as family or children's councils. Often these councils have gone beyond service delivery issues to focus on reforming policies and improving staff development and financing mechanisms. In many states, such as Ohio, Minnesota, North Carolina, and West Virginia, citizen groups are now responsible for establishing broad consensus on goals for all the children and families in their communities and forging the partnerships needed to achieve them. Some efforts involve the creation of new organizations designed to coordinate and strengthen policies, programs, and services for young children and families, such as North Carolina's Smart Start Program. Others are broadening the mandate of existing organizations. Most of these initiatives are relatively new. Successful efforts need to be documented and the information shared with other communities seeking to improve services for children.

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Voluntary Organizations. Apart from publicly funded agencies and programs, children are also served by a wide spectrum of organizations in the voluntary sector. More than 17,000 such organizations offer community-based programs, many serving boys and girls in the three-to-ten-year age span.[21] An increasing number are redefining their missions to stress learning as well as recreation and are devoted to building a wide range of competencies rather than just bolstering children's self-confidence. They include such national groups as the Boys and Girls Clubs, Girls, Inc., Boy Scouts of America, Girl Scouts of the U.S.A., 4-H Clubs, the YMCA and YWCA, Big Brothers/Big Sisters of America, and Camp Fire Girls and thousands of small, independent grassroots organizations. Several national agencies in recent years have established new programs for younger children, such as the Tiger Cub Scouts for first-grade boys, the Daisy Girl Scouts for five-year-old girls, and the Camp Fire Sparks for five-year-olds of both sexes.[22]

Anywhere from 30 to 50 percent of America's young people report they take part in some kind of activity related to a place of worship, including formal instruction, prayer services, special events, camps or retreats, and sports or other recreational activities.[23] Millions of American children also participate in the sports programs of Little League Baseball, Pop Warner Football, the U.S. Ice Hockey Association, and the American Youth Soccer Organization. Other programs for children are sponsored by libraries, museums, parks and recreation departments. Some make provision for low-income children and families or families of color and pay special attention to educational enrichment programs in math, science, and literacy as well as social or "life" skills. They include ASPIRA, the National Council of La Raza, the National Urban League, and the Congress of National Black

Churches, all of which operate community-based programs for children in the primary grades.

As important as they are, however, these resources are not plentiful or readily available to the children and families who have most need of them. Many children are excluded because they cannot afford program and equipment fees; others cannot travel safely to the program sites; not enough is done to reach out to children with disabilities or children whose first language is not English.

The lack of equity for girls remains a serious concern, especially in organized sports. Boys more than girls become involved in sports at young ages, often because they have higher skill levels and more parental and peer support for their participation.

Reaching Out. Public and voluntary organizations and agencies must find ways to work, individually and together, at both the national and local levels, to expand their services to families and children, especially in underserved communities. To accomplish this, they will need to strengthen their outreach; provide the resources needed for incoming families to participate fully; strengthen the quality and diversity of their adult leadership; ensure safe transportation to and from program sites; and involve parents more closely in every aspect of program development and operation.

Improving After-School Programs

By necessity, most families with young children lead lives of creative makeshift. Parents' schedules and children's schedules rarely mesh. For example, children may have twelve vacation weeks a year, while many parents have to get by with one or two. Elementary schools generally release children by 3:00 p.m., but most working parents do not arrive home until after 6:00. Typically, school-age children with working parents spend time in several different settings in the course of a day, with different after-school plans on different days of the week.[24] Roughly one child in ten — totaling at least 1.6 million children — is left alone for a portion of the day.[25] For many "latchkey" children, television is the dominant presence in their lives.

After-school programs, offered by both schools and private groups, have emerged as an important solution for safeguarding children during the times parents are at work. By 1991, more than 1.7 million children — most from kindergarten through fourth grade — were enrolled in some kind of after-school program.[26] They now attend approximately 50,000 programs across the nation. About two-thirds of programs are sponsored by not-for-profit agencies, such as public schools, government agencies, or private youth-serving organizations such as the YMCA. Another third are operated by for-profit organizations — mainly private corporations such as Kinder Care.

These after-school programs take full responsibility for children at least two hours a day. Most operate five days a week as well as on school holidays and during the summer months. Many also operate in the early morning, before school officially begins. While some children "drop in" when their

After the Bell Rings

Millions of American children spend time each day in after-school programs. Most of these programs provide a supervised, safe setting for the children, but few accept responsibility for children's learning or for working with preschools, schools, and parents to enhance children's healthy development. After-school programs that do take this responsibility can make a difference:

- LA's BEST (Better Educated Students for Tomorrow): This program serves 4,400 at-risk students at elementary schools in low-income communities with high levels of gang activity and crime. Now in its eighth year, it draws on the resources of the city government, the school district, the city redevelopment agency, and private sector contributors. It operates from 2:30 p.m. to 6:00 p.m. at no cost to parents, and it offers enrichment opportunities so diverse and creative — including dance, music, sports, science, and art — that many children actually want to stay after school. Its science program is particularly dynamic. An independent evaluation found that three-quarters of children taking part in LA's BEST say that they enjoy school more. Participants' grades have gone up, while grades for comparable students not in the program have worsened over time.

- Murfreesboro Afterschool Program: In Murfreesboro, Tennessee, parents whose children attend any one of the nine public elementary schools can choose from a menu of eight different plans of extended school services. Children can arrive as early as 7:30 a.m. and leave as late as 6:30 p.m. year-round, including school vacations. Parents generally pay no more than $26 per week, based on usage. While Murfreesboro is a prosperous community, the program does cut across income groups. Ten percent of the children are on scholarships, which are funded through private contributions, state and federal job training funds, or federal welfare funds. The response has been enthusiastic. Nearly half of the city's 5,000 elementary school children participate, although only about 1,250 attend on any given day. The weekly schedule includes homework, tutoring, music, dance, and other recreational and enrichment activities. Most of the on-site coordinators are teachers from the school itself, and most of the staff is recruited from the nearby state college's school of education.

- Yuk Yau Child Development Center: Operated by the Oakland (California) Unified School District, Yuk Yau serves preschool and school-age children from Oakland's Asian community. The program, which operates both before and after school, takes its name from the Cantonese words meaning "the education of young children." It is committed to fostering children's growth and learning, including their English-language skills and their appreciation of cultural diversity.

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Yuk Yau is housed in a modern facility that offers children space and materials to play outdoors or to pursue special interests, such as music, cooking, or computers. The program is closely linked to the Lincoln Elementary School, in which all of Yuk Yau's school-age children are enrolled. Program staff and Lincoln teachers interact frequently on an informal basis, and they meet at least monthly in joint child study teams. Most Yuk Yau children view the two institutions as one.

- Satellite Learning Centers: The Dade County Public Schools have established four Satellite Learning Centers to serve the employees of businesses and their elementary-school-age children. These centers, located at the American Bankers Insurance Group, Miami International Airport, Mount Sinai Hospital, and the Turkey Point nuclear power facility, are the result of a public–private partnership. The on-site schools and the extended-day enrichment programs help companies to attract and retain top-notch employees. The Satellite Learning Center affiliated with the American Bankers Insurance Group, for example, operates from 7:00 a.m. to 8:15 a.m. and from 2:00 p.m. until 6:15 p.m. during the school year and all day during school breaks and summer vacations. The vast majority of children who attend the school are also enrolled in the after-school program. Children usually stay in their regular classroom groups and have access to all the materials and equipment, including computers, that are available during the school day. Staff members, known as activity leaders, keep in close touch with teachers, and there is a high degree of continuity between the after-school program and the school-day activities.

- Project SPIRIT: This after-school program's name stands for Strength, Perseverance, Imagination, Responsibility, Integrity, and Talent, and its goal is to instill these qualities in African American young people. Sponsored by the Congress of National Black Churches, Project SPIRIT was founded in 1986; it serves approximately 1,000 children ages five through twelve in twenty cities, spread over thirteen states. Church facilities provide the venue for daily after-school activities led by 122 teachers and 325 elder volunteers, and time is set aside for prayer and meditation. The program also offers tutoring in reading, writing, and math; activities that teach practical life skills through games, skits, songs, and role playing; opportunities to develop black cultural and ethnic pride; and a weekly rites-of-passage curriculum that culminates in an end-of-the-year ceremony. Project SPIRIT emphasizes the importance of close connections between its program and those of local schools. Parents take part in weekly "parent effectiveness" sessions aimed at helping them become strong advocates for their children at school and in the community.

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parents are delayed or have to work late, the majority are enrolled on a regular basis. In these ways, after-school programs are distinct from the many other activities that children take part in once or twice a week in the out-of-school hours — such as sports leagues, religious training, music and dance lessons and scout meetings.

Confronting Realities. The gap between school schedules and the realities of family life is not the only cause of strain for parents. Access to after-school programs depends largely on a family's ability to pay. Parent fees account for 83 percent of program revenues; another 10 percent comes from government subsidies. The typical program costs parents about $2.00 per hour — $130 per month for those whose kids attend from 3:00 until 6:00 p.m. five days per week.[27] Transportation may involve additional costs, since most after-school programs are housed outside of public school buildings. Even when children stay in the same school building, getting them home after the school bus departs at 3:00 p.m. may prove problematic, especially when children live some distance from school. This limits participation in rural areas and in districts that use busing to comply with desegregation requirements. Moreover, after-school programs have too few spaces for children with special needs. A quarter of the program directors say that they have to turn away children with disabilities. Only 7 percent of program directors say that their services are primarily geared to children with disabilities.

When after-school programs are well designed, they can raise achievement, but when they are of low quality, with poorly trained staff and few age-appropriate activities, participants may well do *worse* in school than children who are cared for by a parent or a sitter or are left alone.

When after-school programs are well designed, they can raise achievement, but when they are of low quality, with poorly trained staff and few age-appropriate activities, participants may well do *worse* in school than children who are cared for by a parent or a sitter or are left alone.[28] This is a troubling finding, because there has been little systematic attention to the quality of after-school programs. And because they pay such depressed wages — $6.77 an hour on average for the most senior employees in 1991 — most programs are hard pressed to recruit or hold onto well-qualified staffs who could help to improve quality.

After-school programs typically provide enrichment activities, such as arts and crafts, at least once a week. However, few determine individual children's educational needs or link their activities to the curricula that children are grappling with during the school day. About one in three programs includes tutoring in its roster of daily activities; one in five gives children opportunities to use computers; one in seven offers science. Only 1 percent of program directors say that they serve primarily language-minority children, and few programs offer English-as-a-second-language instruction.[29]

Nor do most programs take advantage of cultural or recreational opportunities within their communities. Only the rare after-school program takes children on field trips. A very small percentage makes significant use of a library, museum, art room, or music room. More than a quarter of all programs lack access to a playground or park even once a week. Yet staffs express wide satisfaction with their facilities, which suggests a limited vision of what the after-school hours could offer.

Knowing that most family budgets are already very tight, providers of after-school programs are understandably eager to keep costs down. But there are many steps providers can take to strengthen programs without substantially increasing costs. Children in after-school programs would benefit from:

- A philosophy that views after-school programs as part of a comprehensive strategy to enhance learning: These programs are responsible for children during some of their most active, productive hours and should never be mere "holding tanks."

- A more proactive approach: Many directors of programs based in schools have accepted too readily the lock-up of valuable resources, such as computers or science labs, in the after-school hours.

- More collaboration: By forming partnerships with schools, businesses, community-based organizations, cultural institutions, and volunteer organizations, after-school programs can offer children much richer experiences. Large-scale employers have a particular stake in the successful operation of after-school programs.

- A more intense focus on the needs of individual children: Most after-school programs report excellent staff/child ratios, averaging eight or nine children per adult. Given appropriate training, staffs should be able to give individual children help with homework and to guide them in practicing important skills.

High Stakes

In the years of promise, children generally require less intensive, minute-by-minute attention to their physical needs than they did when they were infants and toddlers. Parents are grateful for an uninterrupted night's sleep; they are thankful for the chance to pay more attention to their own lives before they have to deal with the challenges of the adolescent transition. Understandably, many are willing to coast for a time. But parents — and we as a nation — cannot afford to coast through these crucial years. With sufficient resources and coordination, families and other pivotal institutions in the community need to provide steady, continuous support to brighten children's futures, and thus the future of our society.

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Chapter 3

Getting Serious about Early Learning

Karen Davies is running late. To get to work on time, she must leave Kenny in his kindergarten classroom by 8:45 a.m., and that means dropping Jessie, her four-year-old daughter, at day care by 8:15. Karen is feeling uneasy about both kids. Last year Karen left them at Mrs. Daniels' every morning, but then Mrs. Daniels took a job at the mall. By then, Kenny was ready for kindergarten, but Karen had to spend weeks looking for a program for Jessie. She was getting desperate when her sister-in-law suggested the Sunshine Day Care Center. It was close to work and a lot easier on the pocketbook than some of the programs around town. "No point paying a fortune for preschool," her sister-in-law always said. "Wherever they are, the kids just play." So she settled on Sunshine.

Still, Karen has qualms. Is Jessie learning as much as she could? The kindergarten at the elementary school has such a different feel — the children there are busy all the time, practicing letters and learning songs. Kenny has had some difficulty getting used to all of the structure, but Jessie would love it. The two kids are barely a year apart. Karen wonders why they should be spending their days in such different kinds of settings.

Family life has changed radically from the way it was in the past. Today, nearly two-thirds of children ages three to five have mothers who, like Karen Davies, work outside of the home and must make some arrangement for their care.[1] Many other industrial countries have responded to these new realities by offering universal programs for young children sooner. In some countries, it is an essential component of the education system. Americans have relied on a mix of the marketplace, government, and community supports to respond to parents' and children's needs. But what our nation has spawned is a wide variety of unconnected programs and services. The result is a nonsystem of early care and education to which some 13 million American children are entrusted each day.

Most three-to-five-year-olds — 53 percent — are enrolled in some type of preschool program.[2] These programs go by any number of names and are offered under various auspices. They include center-based nonprofit and for-profit child care, family day care, Head Start, school-based prekindergarten programs, and part-day nursery schools, among other configurations. Generally they fall into two types of service, reflecting a historical distinction between those that were set up to educate children, such as nursery schools, prekindergartens, and Head Start, and those that were meant to provide custodial care while mothers went to work.

Large-scale studies of early care and education programs in the country have determined that the majority — more than 50 percent and as many as 80 percent — fail to meet standards of quality.

The distinction is artificial: all programs for young children are about education. In their early years, children need both care and education. That is why the somewhat cumbersome term "early care and education" has gained currency to describe all of the settings where preschool-aged children spend time away from their parents. Whatever they are called, they must, in the view of the Carnegie Task Force on Learning in the Primary Grades, be prepared to meet a full range of developmental and learning needs among children. The challenge for the nation is to support all programs that potentially or actively foster the education and healthy development of children of ages three to five, so that early care and education can play their part in a comprehensive learning and development strategy.

The Quality Crisis

The pattern of underachievement described in the opening chapter begins well before most children enter elementary school. Large-scale studies of early care and education programs in the country have determined that the majority — more than 50 percent and as many as 80 percent — fail to meet standards of quality.[3] Millions of preschoolers are spending precious years caught in a maze of unstable, substandard settings that compromise their chances of succeeding in school. For them, the years of promise represent lost opportunity at a crucially formative stage in their development.

A synthesis of the best research on the effectiveness of early care and education programs, developed by the Quality 2000 Initiative of Yale University's Bush Center in Child Development and Social Policy, has concluded that "most young children across the nation spend their days in mediocre-to-low-quality early care and education programs, which can not only threaten their immediate health and safety, but also can compromise their long-term development." According to the forthcoming report, these settings "have so long been neglected that they now constitute among the worst services for children in Western society."[4] As the

study concludes, the sheer numbers of children involved and the inadequacy of most available programs constitute a "quality crisis" in American preschool education.

Quality 2000 drew on a series of studies conducted since 1980 documenting preschool education's low quality. The most recent of these, *Cost, Quality, and Child Outcomes in Child Care Centers*, published in 1995, concluded that the level of quality at most U.S. child care centers "does not meet children's needs for health, safety, warm relationships, and learning."[5] In fact, of the hundreds of centers studied, only one in seven provided good or excellent early care and education, while one in eight actually threatened children's health or safety.[6] The National Research Council's Board on Children, Youth, and Families' review of six large-scale recent studies, including the *Cost, Quality, and Outcomes* study, confirmed the low quality of programs across many kinds of early care and education settings serving all income groups.[7]

Early childhood educators know how to create nurturing environments where young children can fulfill their enormous capacity for learning. But many children like Jessie are simply marking time until "real" learning begins in elementary school. This situation is disturbing, especially in light of the fact that the early years are optimum times for learning and that those who have not participated in an early education program may be entering elementary school having already lost ground. Kindergarten teachers estimate that one in three children enters the classroom not well prepared to meet the challenges of kindergarten.[8] The benefits of good preschools are by now well-known to parents, many of whom will make great sacrifices to enroll their youngsters in a reputable program. Policymakers, in turn, have come to recognize the especially positive effects of early learning opportunities for children who are at risk of being socially and/or cognitively unprepared for elementary school. Moreover, research has demonstrated the ways that early education pays off over the long term, not just for individuals but for society.

In view of the practical knowledge of preschool's effects, the desire of parents for more early education opportunities, and the grim facts of many children's underpreparedness for school, it would seem that any rational approach to educational improvement would include extension of quality preschools to all families who need them. Yet the United States stands virtually alone among modern industrial nations in not providing universal access to early care and education.

Lost Opportunity

The disaster of early care and education is not Karen Davies' or any other parent's fault, nor is it just her personal problem; it is what most parents in America face as they search for good educational opportunities and child care for their young children. In the absence of a comprehensive system of early care and education, most American families make their own arrangements and dig into their own pockets to pay for services.

Low Wages + High Turnover = Poor Quality

Because most preschool programs rely for their revenues on parents, whose household budgets are often stretched to the limit, programs have to keep costs down. Most cannot afford to pay wages high enough to attract or retain well-trained and certified teachers. Wages for preschool teaching staff are appallingly low, especially in light of the vital job they are doing — $8,890 a year for assistant teachers and $15,500 for teachers in 1992. Wages paid to the lowest-paid assistant teachers actually declined by about 1.5 percent between 1988 and 1992. Benefits, too, are scarce: only 18 percent of programs pay the premiums for health insurance for all of their teaching staff.

Preschool teaching staff are in effect subsidizing an underfunded system with their forgone wages and benefits. Teachers would probably earn about $5,000 more per year, and assistant teachers $3,600 more per year, in jobs requiring comparable levels of education and experience, according to one recent study. In Washington, D.C., for example, the average new preschool teacher with a B.A. earns $18,000, while a starting public school teacher with the same qualifications earns about $23,000.

The result of all this is an astronomical turnover rate among preschool program staff members — in 1991, for example, 26 percent of preschool program staff members left their jobs, compared with fewer than 6 percent for public school teachers. In a 1992 revisit to sites participating in their 1988 national study, a Child Care Employee Project team found that 70 percent of the teaching staff had left in the four years since the original study.

Frequent staff changes take a toll on the children. Preschoolers form close relationships with their teachers and caregivers, and these relationships are important to their emotional and social growth. Indeed, forming trusting relationships with adults is one of the key developmental tasks of the preschool years. The disappearance of a beloved teacher shakes children's trust in adults; at the same time, it deprives preschool programs of an irreplaceable store of knowledge about the needs of individual children. High turnover also disrupts the staff's relationships with parents and interrupts planning and curriculum development.

Seventy-five percent of the funding of all early care and education services in this country comes from the families that use them.[7] As a result, most programs are so starved for resources that they are incapable of providing adequate quality. Because parents of young children are not usually in their prime earning years and are often struggling to make ends meet, programs try to keep fees down, so they cut corners on their biggest expense — labor. Teachers, therefore, are grossly underpaid and undertrained, and staff turnover rates are very high. From the point of view of children like Jessie, the caregivers they come to trust are

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liable to vanish at any moment; whatever continuity in the curriculum they may have experienced is disrupted.

High-quality early care and education services are least available to those whose children would derive the greatest benefit from them — the poor. In 1995, only 45 percent of three-to-five-year-olds from low-income families were enrolled in early care and education programs, compared with 71 percent of those from high-income families.[10] Moreover, the services that low- or moderate-income parents can pay for tend to be inadequate. With the notable exception of Head Start and some exemplary state-funded programs, programs attended by lower-income children do not ordinarily provide the full range of child development, health, and parent services that help children get ready for school.

Children from low- and moderate-income families are disproportionately represented in the types of programs that are less likely to meet quality standards — unregulated family day care and profit-making centers.[11] Those high-quality programs that do exist for these families are scarce and have long waiting lists. Funding for Head Start has not kept pace with demand, so that services now reach little more than one-third of eligible three-, four-, and five-year-olds. The working poor — parents who are neither eligible for subsidies nor able to pay for services — have the least access of all income groups to early care and education.

The Effects of High-Quality Preschools

Preschools with an appropriately trained staff and a high-quality developmental curriculum have long since proven their worth in promoting cognitive, social, and emotional development in young children, with some effects persisting well into a child's adult years. A substantial body of evidence gathered from decades of research and the experience of the many successful preschool programs documents this fact. Many studies of the impact of high-quality preschool programs on disadvantaged children confirm that they significantly develop children's social and coping skills, reduce referrals to special education and retention rates, and improve children's learning during the early elementary grades, all of which are crucial factors in establishing a trajectory toward achievement.[12]

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Experts have found what many parents know intuitively: that success in the elementary grades depends heavily on whether children have been taught certain social and cognitive skills. These include the comprehension and use of new words; a basic understanding of the relationship of print to spoken language; the understanding of numerical concepts; the ability to draw representative symbols and pictures; the ability

A Good Preschool

A good preschool follows all the principles of effective practice outlined on page 30. It is a safe and attractive place where ample learning materials are available, where small class sizes allow individual attention, where the teachers are well trained to work with preschoolers and are able to develop warm, trusting relationships with them, where the curriculum is developmentally appropriate for three-to-five-year-olds, and where parents are closely involved in the programs. Ideally, the preschool collaborates with other learning institutions such as the neighborhood elementary school and community centers. The preschool described below, "Better Tomorrow," is a composite of several such preschools that the task force visited.

At Better Tomorrow, children feel comfortable in small groups, where they learn under the careful tutelage of a few adults who know them well. There are twenty children in each of the two classes for four-year-olds and fifteen in each of the two classes for three-year-olds. There are a teacher, one or two assistants, and often several parents in each classroom. Because the teacher does not have to deal with an entire group by herself, she is able to have many different activities going on simultaneously that meet the particular interests of each child. Low staff turnover means that the children are able to form and maintain stable relationships with their teachers.

Preschool-age children need to learn at their own pace and follow their own interests. At Better Tomorrow, they have opportunities for a variety of experiences, reinforced through frequent repetition, which help to develop their language and social skills. These include hands-on experiences with animals and plants, letters and shapes, art, and music, and the excitement of good stories. Rather than sitting at assigned seats, the children move around independently for much of the day, as their interests take them. They may gather in one large circle on the floor to share stories or sing songs, or cluster in small groups in different parts of the room to feed the rabbits, or sit alone to paint a picture or "read" a book. There is almost always a buzz of conversation among the children, because they are learning from each other as much as from the teachers and the materials. The teachers converse with the children constantly, asking questions that help them think through problems on their own, rather than simply giving them answers.

In one class, two girls and two boys in the block corner are building their version of a supermarket. They are learning, among other things, how many small square blocks will match one long rectangle, or how two triangular blocks can make the square they need to complete their building. A boy painting enthusiastically at the easel has just shown his friend how to make green paint by mixing blue and yellow. The children in plastic aprons making a mess at the water table are chattering about anything and everything, while finding out how many measuring cups it takes to fill the large plastic container. Children listening to a teacher read a story are beginning to realize that the words at the bottom of each page have a consistent relationship with the picture.

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The children in the dress-up corner, adorned in a wild array of grown-up clothes, are having a wonderful time, and by playing different roles — parent, teacher, firefighter, big sister — they are also learning that different people have different points of view and different responsibilities. When two children begin to tussle over the large firefighter's hat, a teacher intervenes — not to impose a settlement, but to show them how to talk to each other about the problem and how to share the hat.

Better Tomorrow plays a major role in children's physical development and in teaching children, and perhaps their families, basic safety, health, and nutrition habits. Parents must show proof that their children have received appropriate immunizations when they enroll them. The rhythm of the preschool day carefully balances young children's need for vigorous activity, quieter times, and rest. There is plenty of safe and developmentally appropriate climbing equipment available. Meals are tailored to children's nutritional needs, and teachers eat with the children, family-style, in part to teach them the importance of good eating habits and good table manners.

Planning and carrying out a program as rich and effective as this one requires teachers with training in child development and early childhood education. At least one teacher in each Better Tomorrow classroom has a bachelor's degree and state certification in early childhood education. Better Tomorrow emphasizes the ongoing professional development of its teachers and assistants and has regular training sessions and joint planning time scheduled for all staff. Teachers learn to assess children's development continuously, by closely observing and recording what they do every day; they are thus able to make continuous adjustments of classroom activities to meet each child's needs.

At this age children are more dependent on their parents than they will be by the time they reach first grade, and parents and preschools have many opportunities to reinforce each other's efforts. At Better Tomorrow, the teaching staff see parent involvement as a very high priority. Parents frequently visit not only to observe but to volunteer in the classrooms and to chaperone school trips. Like most good preschools, Better Tomorrow requires parents to drop off and pick up their children at the classroom door each day, and some of the most useful conversations between parents and teachers are the informal chats that take place while their three-year-olds find their mittens and say one more goodbye to their friends. Twice a year, parents, teachers, and the children who will be leaving preschool in the spring visit the local elementary school to see what kindergarten is like.

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to express feelings, including anger or frustration, through words rather than actions; the capacity to be curious, inventive, and creative; and the ability to cooperate with others and appreciate the qualities of peers who are from backgrounds different from theirs.

Evidence from Research. Perhaps the best known and most exhaustive study carried out on the long-term effects of preschool education is the Ypsilanti Perry Preschool Project of High/Scope.[1] The project began in 1962, focusing on a group of very low-income African American children identified as "at risk" of later school failure. The three preschools in which children were enrolled emphasized active learning and problem solving grounded in the child's own experience and included a ninety-minute-per-week visit by teachers to the children's homes. Research, which has continued into 1996, has tracked the original participants and the control group over three decades and over that span has reported significant short- and long-term results. At age nineteen, those who had Perry Preschool experience had fared better not only in school but also in their health, social adjustment, and economic prospects. The researchers estimated that every dollar invested in the preschool program returned seven dollars that otherwise would have gone for remediation, welfare payments, unemployment

costs, and other compensatory services. The most recent update of the study followed the participants and the control group through age twenty-seven. It concluded that a high-quality preschool program creates a framework for adult success and makes a permanent contribution to participants' lives.[11]

The Perry Preschool findings and those of other demonstration programs show that a well-managed early care and education program can give youngsters a lasting advantage over their peers who get no such help. This does not mean that good early care and education are alone sufficient to prevent later underachievement. More is needed to help children grow into the kind of competent, confident learners that parents hope for and that employers vie for. But the growing body of research suggests that good preschools *can* give at-risk children an immediate, significant boost and better prepare them for school.

Preschool programs are more likely to prevent later delinquency and other antisocial behavior when they combine early care and education with intensive family support services, such as home visits and parent education.[12] Although the Perry Preschool project and other studies incorporated family support, few programs today are able to provide routinely the intensive services to families and parents that were built into these experimental studies.

Research also shows that programs that involve children over several years stand a better chance of bolstering achievement on a long-term basis than more abbreviated programs. This conclusion is based on the experience of more sustained programs, tested in the 1970s and 1980s, that spanned the preschool and primary years. The Milwaukee Project, for example, intervened for up to six years, beginning at about age two, in the lives of children born to retarded and poor mothers. The Abecedarian Project, another sustained program, provided services from birth through age six.[13]

Gauging Program Quality

Cost, Quality, and Child Outcomes in Child Care Centers, the most thorough survey of the quality of preschool education in recent years, has confirmed the importance of program quality to children's education and development. Researchers observed classrooms and interviewed program directors, teachers, and parents in a sample of 401 for-profit and nonprofit preschool centers in four different states. They found that, "compared to children in lower-quality settings, children in higher-quality classrooms displayed more advanced language development and pre-math skills, had more advanced social skills, had more positive attitudes toward their child care experiences, and had warmer relationships with their teachers." In addition to meeting other criteria for a good preschool, the higher-quality programs had administrators with prior experience and teachers who were more highly educated and better paid.[14]

In theory, the marketplace assures quality because consumers will patronize good programs and force substandard programs to close their doors. So Americans have to wonder, why is high quality so rare in

How the Armed Forces Raised Child Care Quality

The U.S. Department of Defense operates one of the largest child care systems in the world; each day, the military child care system has responsibility for more than 150,000 children whose parents are in the armed forces. Because nearly 40 percent of the 1.44 million active-duty men and women have small children, and because many of these families are stationed in areas where child care is limited or of poor quality, the department decided that providing affordable, convenient, high-quality child care would reduce absenteeism, increase commitment, and, most important, allow parents on bases around the world to concentrate on their jobs, freed from worry about their children's well-being.

The Military Child Care Act of 1990 enabled each base to offer full-day, part-day, and hourly child care services, as well as part-day preschools. The developmentally based program, serving children from the ages of six weeks to twelve years, involves more than 530 child development centers and 300 school-age care facilities located on bases and some 10,000 family child care homes in base housing. Spouses of members of the military who provide care in their homes undergo a rigorous training program run by specialists in early childhood education and are subject to monthly monitoring. While anyone with a high school degree can begin work in one of the department's preschools, untrained staff members must undergo substantial "basic training" in the first year to keep their jobs. All staff members must take part in at least twenty-four hours of training annually — more than twice the national average. Training, which is paid for by the military, is organized sequentially and builds toward certificates and academic degrees. As caregivers increase their qualifications, they can look forward to pay raises and a wider range of career opportunities.

early care and education? One answer is that the marketplace only functions efficiently when consumers have a range of realistic choices and when they have the information they need to discern quality. But most parents are hard pressed to find a setting where they can feel comfortable leaving their children. And most have few reliable yardsticks they can use to judge or monitor program quality. When consumers have few desirable options and limited information, programs have few incentives to improve quality, and the market falters."

Assessing Quality by Inputs. Parents gain their impressions of program quality based mainly on such factors as the upkeep of the facilities, class size, the number of caregivers, and the warmth and responsiveness of their interactions with both children and adults. And researchers and evaluators up to now have looked at many of these same features, as well as others: whether the program has highly trained teachers with strong backgrounds in early childhood education;

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One of the most important reforms of the Military Child Care Act was to increase staff pay to the level of other entry-level jobs on posts, resulting in dramatic drops in turnover rates, which at some bases were as high as 300 percent. Higher wages and the introduction of a career ladder have paid off in greater professionalism and higher quality. Seventy percent of all military child care centers are now accredited by the National Association for the Education of Young Children, compared with the national average of 5 percent. The Department of Defense attributes this above-average rate of accreditation to the mandatory staff training, improved teacher/child ratios, and strict enforcement of standards. Parental involvement is encouraged: in addition to a parent advisory board for each center, parental "checks and balances" include a toll-free telephone number that parents can call to voice any concerns about the health and safety of children in the centers.

These improvements have roughly doubled the cost per child, but, in keeping with the department's commitment to affordable, high-quality child care, parents and government each pay half the cost. Fees are set on a sliding scale based on family income, with military appropriations making up the difference: in 1995, the average cost to parents for one child in a child development center was just under $65 a week. The cost to the military for subsidizing the entire program, including child development centers, school-age care facilities, and family child care homes, is $269 million in 1996. The department believes that it is now meeting 50 percent of child care needs, and it hopes to meet 65 percent of the demand by the year 2000.

a safe and healthy environment; strong partnerships with parents; and a curriculum that attends to all aspects of children's development, assuring them of rich and diverse learning opportunities.[19]

Researchers are now coming to take a more complex view, considering the relationship among various factors instead of viewing them in isolation. For example, instead of just looking at adult-to-child ratios, they are considering the capacity of programs to deploy staff creatively throughout the program and throughout the day in ways that benefit children. Moreover, they are taking into account factors that have been given too little weight in the past, such as programs' capacity to respond to the diversity of the children and families served and to engage parents effectively.[20]

At the same time, the content of early care and education curricula is receiving more attention. An emphasis on developmentally appropriate practice should not rule out the offering of challenging content, in which children explore not only shapes

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and colors but also fundamental concepts. A high-quality program infuses into its curriculum, in developmentally appropriate ways, all of the disciplines that appear as formal content areas in elementary school. Social studies may take the form of block-building or a trip to the railroad station and engage children in projects that ask thought-provoking questions like, How do we know that people were living on earth a long time ago? Simple math can be taught as part of a cooking project or through the use of manipulative toys. Teachers can encourage preschoolers to explore the physical properties of familiar things like water, sand, a rolling pin, and marbles and pursue inquiry-based approaches to science that let them test their own assumptions about the physical world. For example, using blocks, children can construct ramps of different heights, roll toy cars down them, and predict which one will go farthest. Then they may check and record how far each car actually traveled. In the process, they develop spatial relations, prediction, observation, charting, and cooperative learning skills.[21]

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A New Emphasis on Results. All of the foregoing are "inputs" — the ingredients that go into an early care and education program. But what about the "outputs" — the leaps in knowledge and development that children make, or do not make, as a result of taking part in the program? Can these results provide a measure of program quality?

This is a subject of intense debate in the field of early care and education. As the next chapter points out, elementary education today is being reshaped by a vigorous movement to define, in very precise terms, the knowledge and skills that students should be expected to master by the fourth grade and to judge a school's effectiveness in terms of its ability to help children meet these standards.

In contrast, the field of early care and education has resisted efforts to judge program quality on the basis of results for individual children. Two main concerns underlie this resistance. First, many educators and parents question the appropriateness of standardized readiness tests for young children, and they worry about the potential misuse of the assessments to label or categorize children or to delay their school entry. Second, there is little consensus about the kind of skills or developmental milestones that should be measured in the early years, since it is recognized that young children progress toward these milestones at different rates.

Despite these concerns, many experts are now framing discussions of quality in ways that include a consideration of results. The Quality 2000 Initiative has taken a strong position on this issue, recommending a broad effort involving all of the stakeholders in early care and education to move to a results orientation. This means defining reasonable developmental milestones, discern-

ing how to assess them appropriately, and determining how best to use the information to improve planning, classroom pedagogy, and program evaluation.

There is growing consensus within the field that a results orientation, taking into account not only children's cognitive growth, but also their emotional, social, physical, and language development, can benefit children and strengthen programs — *if* results are measured in ways that are sensitive to differences and reflect accurately what children know and can do, and *if* results also take into account contextual factors, such as the kinds of family settings children live in and the kind of services they receive. If practitioners have a clear notion of the specific results they are pursuing, both for groups and individual children, they are more likely to plan activities and curricula that can achieve them. A new results orientation, based on measuring preschool children's progress in learning and on developmental milestones, is needed to guide improvements in program quality in the entire early care and education field.[22]

Building an accountability system that drives program quality upward and informs policymakers responsible for difficult allocation decisions, however, is a complex undertaking that will require careful planning and experimentation. In the view of the task force, professional associations, policymakers, and business groups should actively develop better approaches to measure the results of early education and care programs.

But the standards that are developed must take into account the wide variations in children's development as well as their language and cultural backgrounds, and they should build toward the elementary school standards discussed in chapter four.

Building a Career Ladder

The quality of preschool programs depends on the quality of the staff members, which is determined by their work experience and their level of education and specialized training. People who want to work in early education and care have little incentive to seek specialized training — few programs require such training, and, in any case, better qualifications are not rewarded by higher salaries, professional advancement, or greater status. As a result:

- Forty percent of preschool teachers have only a high school diploma; another 10 percent have a two-year degree from a community or junior college.
- About half of all assistant teachers and aides have no more than a high school diploma.
- Preschool teachers receive only about ten hours of training each year, usually at their own preschool centers or at a community college.

Few states have built career advancement steps into their child care licensing or preschool teacher certification policies, and few preschool programs offer higher pay in return for more qualifications or greater responsibility. For most preschool staff members, the only ladder in their careers is the one attached to the slide in the playground.

In 1993, the first national study of career development in early education and care, *Making a Career of It*, was published by the Center for Career Development in Early Care and Education at Wheelock College. Its main finding was that "there is no coordinated system to develop well-trained practitioners to work with young children in homes, centers, Head Start programs, or schools." The lack of a career path demoralizes caregivers; in the long run, it also hurts the children who are entrusted to them. Preschoolers receive better care and education when their caregivers view what they are doing as more than a day's work — when they see nurturing and teaching young children as an important and valued profession.

The Quality 2000 Initiative undertaken by the Bush Center at Yale University has found that many industrialized countries require preschool practitioners to have much more training and education. The United Kingdom, Finland, Sweden, and Japan, for example, require relevant college-level training, ranging from two years in Japan to four years in the United Kingdom. France is the most demanding, requiring of its preschool teachers the same master's-level preparation it requires of elementary school teachers. All these countries back up their requirements with a coordinated training delivery system that offers sequences of courses for preschool teachers and administrators at many institutions of higher education.

Building a coherent system of support for preschool teachers' professional development in this country is a challenge, but it can be done. Indeed, it already exists in one significant arena, the U.S. military (see the sidebar on page 62).

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A number of programs across the nation are now seeking to strengthen professional development for preschool staff and to build a sturdy career ladder. They include:

- Delaware First . . . Again: The state of Delaware is the first in the nation to come up with a comprehensive statewide plan for career development in early child care and education. Initiated in late 1989, the ten-year plan seeks to specify the level of training and qualifications needed for all roles in early child care and education settings. It specifies the qualifications of trainers, the content of the training, and the development of curricula and training materials.

- Early Childhood Training Center: Established in 1988, Nebraska's Early Childhood Training Center is a statewide initiative operated by the Department of Education's Office of Child Development. It is intended to bolster professional development in early education and child care. Stressing an interdisciplinary approach to the child development, health, special needs, and family support training needs of the state's early childhood workforce, the center provides on-site training and consultation by qualified staff developers; it also helps coordinate the existing training resources of Head Start, child care, and primary grades educators within the state. The center disseminates information about training through a telephone resource number and an on-line service.

- Early Childhood Development Network: Launched in 1992, this initiative uses satellite TV technology to offer professional development to Head Start staff working in isolated rural areas, Indian reservations, Alaskan villages, and migrant programs in twenty-six states and the U.S. Virgin Islands. Operated by the Educational Television Endowment of South Carolina, the program provides frequent "live" interactive training sessions, which are supplemented by weekly one-hour conference calls. Participants can satisfy Head Start's training requirements and may earn up to nine academic hours of credit from at least one institution of higher education in each state.

- Early Childhood Collaborative of the District of Columbia: Established in 1990, the collaborative is a coalition of government agencies, schools, community groups, and business leaders dedicated to improving the well-being of young children and their families. To improve instruction and knowledge of developmentally appropriate practices across child care, Head Start, and the primary grades, the District has created a flexible training fund that allows teachers and principals to attend professional development classes on child development, classroom organization and instructional techniques, and outreach strategies to involve parents in their children's early education. A comprehensive resource guide identifies available training for early childhood educators in the Washington, D.C., metropolitan area, including college courses, professional institutes, and workshops.

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The Gap between Policy and Reality

Broader awareness of the importance of quality in early care and education, and more information about what quality means, may help Americans get serious about early learning. Despite a wealth of evidence about the benefits of good programs, the growing demand for affordable services, and recent public attention to the issue of "school readiness," the nation has not yet come to terms with the need to take broad action to improve the quality of, and access to, early care and education.

Our public schools and many of our preschool programs are still organized as if mothers were available all day to take care of young children.

Indeed, few areas of American life show more disconnection between policy and reality than this. The policy vacuum — the lack of provision for systematic funding and coordination of programs, the inequitable distribution and investment of resources, the absence of assurances of quality in all early care and education — taken together constitute a form of denial that places millions of our children in jeopardy.

Myths and Misconceptions. Misconceptions about early care and education are widening the gap between policy and reality. Particularly pernicious is the notion that some settings for young children are educational while others need only be custodial. Some states set such low standards for quality that they are relegating children to custodial care even though this may not be their stated intent. Surely many Americans would object if elementary and secondary schools for some children were designated as institutions for learning, while schools for other children were designed merely to keep them safe while parents worked.

Another misconception is the long-held conviction among many Americans that all three- and four-year-olds belong at home with their mothers. That conviction collides five days a week with the realities of American families, in which most mothers of preschoolers are in the workplace. Policies that might help working mothers who wish to stay home with their children without suffering severe financial loss -- like the child allowances and parental leave policies of some other industrial nations — hardly exist in the United States. Our public schools and many of our preschool programs are still organized as if mothers were available all day to take care of young children. Employment policies in most workplaces are still written as if families had ready access to affordable, appropriate preschool child care.

Perhaps the most harmful myth is the idea that such a vast and vital public service as early care and education can be funded largely by the families who use it. This situation inevitably leads to a shortage of good programs, very unequal access to those programs, and the segregation of children in programs according to income and race. Picture the condition to which the public school system would sink if families had to pay out of pocket for most or all of the cost of their children's elementary and secondary education!

Despite the high level of current parent fees, there is simply not enough money being expended to support a system of high-quality preschool programs. A 1990 study compared parents' average expenditure on preschool with the estimated real cost of meeting quality standards in class size, child/staff ratios, and teacher training and compensation. The study found that the average family would have had to double its current out-of-pocket expenditure per child to support adequate quality in preschool programs for the children then enrolled.[3] U.S. Census figures from 1993 indicate that the average family expenditure per child for preschool was $79 a week — about 10 percent of average family income, although the amount varies widely by region. But these costs represent quite different degrees of hardship for families of different income levels. They account for 27 percent of

monthly income for families in poverty but only 7 percent of monthly income for families not in poverty.[24] Although many more affluent parents might be able to pay higher fees, lower- and middle-income parents would be hard pressed to do so.

Inadequacies of Current Public Financing

Public funds for preschool programs from federal, state, and local governments constitute only about one-quarter of the total amount spent on early care and education in this country. Some of the public monies are targeted to low-income families, but others go in larger proportion to higher-income families, so that in the aggregate they do not significantly redress the problem of inequitable access to quality programs.[25]

The largest and best-known of preschool programs is Head Start, the federally sponsored initiative that began in 1965. At an annual cost of about $3.5 billion, the program

offers comprehensive developmental services to low-income children, encompassing education, social and emotional development, and physical and mental health, nutritional, and social services to families. The cornerstone of the project is parent and community involvement. Today approximately 1,400 community-based organizations and school systems are responsible for local implementation of Head Start. While the number of poor children increased dramatically between 1980 and 1990, Head Start serves fewer than one-half of all eligible low-income three-and-four-year-olds. That is roughly 800,000 children.[26]

After Head Start, the federal Child and Dependent Care Tax Credit is the largest source of federal subsidy for preschools, in fiscal year 1995 amounting to $2.8 billion. It is available to families who need child care because they work. To receive the tax credit, parents must spend substantial amounts of their own funds, which means the benefits go mainly to middle- and upper-income families,[27] whose costs are reduced by an average of 20 percent. According to preliminary 1994 data, 14 percent of the benefit went to families with adjusted gross incomes of less than $20,000; 47 percent went to families with incomes between $20,000 and $50,000; and 39 percent went to families with incomes over $50,000.[28] Another major drawback is that parents cannot use the tax credit to pay for part-day preschools whose sole purpose is to enhance their child's educational development.

The federal Dependent Care Assistance Plan (DCAP), also known as a flexible spending account, allows an employee to set aside up to $5,000 per year in non-taxed income for child care expenses. This amounts to a federal subsidy, in the form of tax savings by families of $675 million in 1994. Unlike the Child and Dependent Care Tax Credit, the DCAP does not phase out as income rises, and thus it is tilted even more heavily toward upper-income taxpayers.[29]

Other federal sources of preschool funding — the Child Care and Development Block Grant, the At-Risk Child Care Fund, and the Title XX Social Services Block Grant — are targeted to low-income families, but none is sufficient to meet the needs of even its own narrowly defined target population, and together they meet only a small proportion of the total cost of preschool education in America.[30] The majority of programs remain only part-day/part-year, effectively excluding many eligible working families who need more year-round care. Currently, thirty-two states support preschool with separate grants or appropriations. In a few states, state-funded prekindergarten programs reach 25 to 30 percent of eligible children, but in most states a much smaller percentage of those eligible is served.[31]

Toward a Supportive Infrastructure

Privately funded early care and education programs have myriad sponsors, including for-profit corporations, community organizations, religious organizations, universities, parent cooperatives, and a host of other groups. Public funds flow from different legislative mandates and funding streams and have markedly different designs, administra-

tive structures, and standards. A recent study of federal subsidy programs documented ninety different programs located in eleven federal agencies and twenty offices. Such fragmentation, compounded by an array of scattered and disconnected state-financed and fee-based programs, prevents formation of the vital infrastructure that any true system needs as a prerequisite to improving and sustaining consistent quality.[8]

Mechanisms for assuring adequate funding of early care and education must be created so that all families who wish to enroll their children in a quality preschool program can afford to do so. Although these measures will be essential for solving the quality crisis in preschool education, they will not suffice without a solid foundation upon which to build the thousands of good preschools that the nation's three-to-five-year-olds need and deserve. Current approaches to financing and also to staffing, coordinating, and standard setting for preschool programs, as we have described, are so fragmented and inefficient that they compromise quality at every turn. An integrative strategy is needed, along with a sustained effort to implement it.

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Over the next five to ten years, a new and more coherent, high-quality system of child care and early preschool education could be developed if it were driven by a coordinated national, state, and local effort to build the needed infrastructure of support. In addition to adequate mechanisms for financing, the Carnegie Task Force on Learning in the Primary Grades recommends the following measures, based on the key elements of an infrastructure identified in the Quality 2000 Initiative report. If implemented, they would provide the necessary support for a more coordinated, comprehensive preschool system.

- Improved Parent Information and Engagement. Parents often lack information about what constitutes quality in a preschool setting and do not have a range of choices available to suit their family circumstances. More opportunities can be provided by employers and resource and referral agencies to help parents stay involved in monitoring and receiving ongoing support from these programs and engaged in advocacy efforts to influence institutions, legislation, and workplace policies in meeting their needs.

- Expanded and More Meaningful Staff Development. Most professional development opportunities for early childhood educators are piecemeal efforts that lack the necessary focus on children's learning and healthy develop-

ment. More support is needed to help attract, prepare, nourish, and retain an adequate supply of qualified staff to fill a variety of roles and to create the kinds of working conditions that would make a career in early care and education satisfying, respected, and financially viable.

- Better Facilities Licensing, Enforcement, and Accreditation. Far too many preschool programs have not established even minimal standards for the health and safety of children and for the professional qualifications of staff members. Where standards exist, they are rarely enforced, or there are often exemptions granted for certain programs. What is needed is an effective, nonduplicative system to assure that all facilities that house early care and education programs promote children's safety, health, and development and to provide incentives that encourage programs continually to improve the quality of their services.

- Better Governance and Planning. Community-wide and state-level planning and governance councils are being developed in several states and cities to improve management of preschool programs. For instance, in Minnesota,

North Carolina, Ohio, and Oregon, public/private partnerships have been established by policymakers and by business and community leaders to plan and coordinate services for young children and their families; to engage in short- and long-term planning; to collect data; to issue public reports; and to establish benchmarks for progress for the purposes of ensuring accountability. Such councils have strong potential for bringing together the necessary institutions and sectors to produce good results for child development and education.

As many parents like Karen Davies have discovered, the American system of public education is organized as if children's out-of-home learning began at age five. The result is a split-level structure separating early care and education from elementary schools.

- Increased Funding and Coordinated Financing. To date, funding for early care and education has been limited in amount and episodic in nature. To establish an effective early care and education system, additional funds consistently appropriated and efficiently used are necessary. New strategies for revenue generation and allocation must be accompanied by significant additional resources from public and private sources.

The Transition from Preschool to the Early Grades

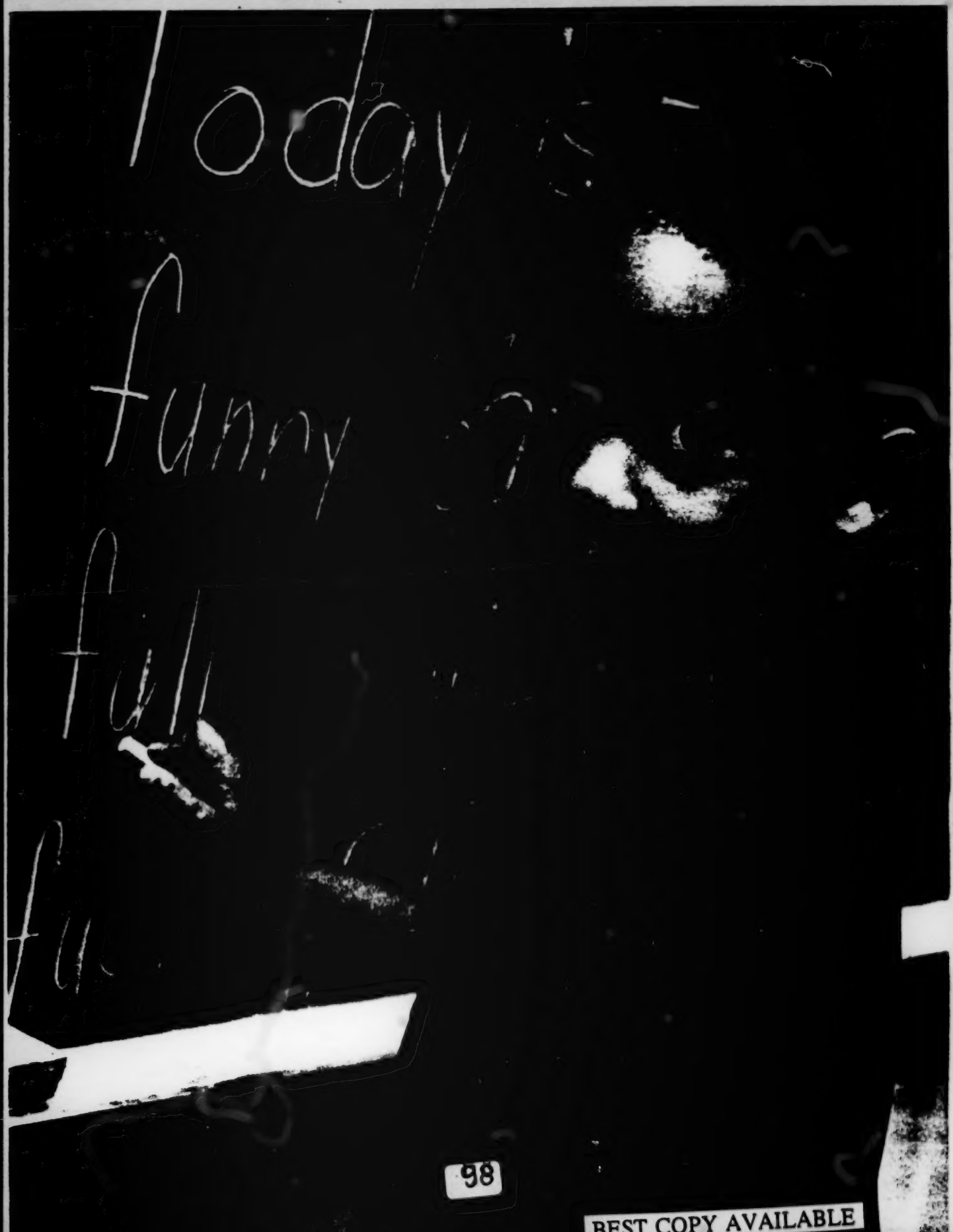
As many parents like Karen Davies have discovered, the American system of public education is organized as if children's out-of-home learning began at age five. The result is a split-level structure separating early care and education from elementary schools. Individual children grow, day by day — each at his or her own rate — and the changes that occur between the last day of "day care" and the first day of kindergarten are imperceptible. As public education is presently organized, however, children at about age five are suddenly "in the system." They are provided with free schooling and taught by teachers who have a different kind of preparation and have different credentials from the teachers they knew in preschool. They are engaged in classroom activities that tend to be much more structured, and they are expected to master a curriculum that is usually far more rigorous than early education programs tend to offer.

Much could be done to meld policy and practice, so that early care and education and elementary education benefit from the knowledge and experience of the other. The field of early care and education has a longstanding commitment to hands-on, child-directed learning activities that are geared to children's individual patterns of development and learning. This orientation could strengthen instruction in the early grades in many elementary schools. On the other hand, too many early care and education programs have misinterpreted developmentally appropriate education, leaving

children without clear guidance, structure, or curricula. These programs could benefit from the emphasis on teaching and on instruction that springs from curriculum theory and that informs high-quality elementary school practice.

More could be done, too, to help children more easily negotiate the transition from early education to elementary education. Today only 10 percent of elementary schools report systematic contact between kindergarten teachers and entering pupils' previous caregivers or teachers or hold joint training with the staff of preschool programs located in their communities.[33] Some recent efforts are aiming toward more integrated training across the age span, and a number of states now provide early childhood certification for teachers of three-to-eight-year-olds. States could do more to develop a framework for early childhood transition services, by providing incentives and technical assistance to transition projects; taking a broad view of assessment practices for young children; reconsidering the licensing, training and compensation plans of all early childhood teachers; and expanding opportunities for early childhood teachers across settings to collaborate on issues of curriculum, instruction, and assessment.

Today, when children like Jessie and Kenny reach the age of five, they move from a nonsystem of early care and education to a flawed system of elementary education. To reverse the pattern of underachievement that threatens the future of this nation, Americans need to act now to expand access to quality early care and education programs, make dramatic improvements in the quality of all of the educational settings where children learn during the crucial age span from three to ten, and forge strong links among those settings.



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Chapter 4

Creating Successful Elementary Schools

It is early morning in George Washington School, a once grand, now shabby building in a gentrifying neighborhood inhabited by a mix of middle-class and low-income families. Inside, light streams through the tall windows, and the wide hallways are hung with bright banners, giving the school a festive air. Along the corridors are colorful displays of children's art and writing. Ms. Jones, the principal, makes her rounds, greeting every child by name. To Tynisa, a second grader, the principal seems to be everywhere at once. Today her teacher, Ms. Thorpe, has promised to begin with "partner reading" — Tynisa's favorite activity. Her partner Travis has chosen *Brave Irene* from the many volumes stacked all over the room. Their chairs side by side, Tynisa reads aloud to Travis, who prompts her when she stumbles. Then it is her turn to listen and prompt. Reading doesn't come easily to Tynisa, but her teachers and parents meet to discuss her progress every several weeks, and they are all working intensively with her so she won't fall behind. Tynisa's reading has also been improving since she began working with a challenging computer program designed to help children master phonics.

A few miles across town, at a desolate intersection strewn with garbage, stands the imposing Andrew Jackson Elementary School, whose students all come from low-income families. To get to school each morning, Jessie walks past boarded-up buildings and the inevitable gutted car. Past a heavy, graffiti-covered door, she enters a hallway that is bare of children's work except for an occasional bulletin board covered with ditto worksheets, painstakingly penciled in. Jessie is now a third grader, a survivor of six different teachers in four years. Her desk in Ms. Matthews' class is near a window, but she cannot see out: the cracked panes have been replaced with milky Plexiglas. She fills in her times tables on a worksheet again, then twirls the stubby yellow pencil. Somewhere on the other side of the room, beyond the rows of children, Ms. Matthews is saying something, but Jessie is dreaming. She knows that as long as she doesn't "act up" her teacher will pay no attention to her. There are computers in the school, donated by a company, but the teachers don't know how to use them, and they are locked away.

Not far away from Jackson, in a different district, is the school that Tyler attends — Abraham Lincoln. This neighborhood is even more distressed than Tynisa's. Here, the sounds of gunshots regularly puncture the night and children have long ago stopped waking to the sirens. A few years ago, Tyler's older brother passed through Lincoln and then went on to middle school, where he coasted and soon dropped out. But since then, the school district has acquired a new principal — a Ms. Smith, who grew up only a few blocks away. Ms. Smith has been making big changes. Although Tyler doesn't know it, she has been brought in by the district with a mandate to improve the school. But Tyler can tell that something is different, because, unlike his brother, he likes coming to school. He starts each day reading and writing in small groups with his classmates, and he is proud of the progress he is making. The teacher, Mr. Gruber, comes around to work with each group, and when he says it's time to stop, Tyler asks for "just a few more minutes" to finish a play he's writing with Carlos and Ann. With strong district support, Ms. Smith and the teachers have adopted a nationally recognized comprehensive reading program, which provides materials, instructional methods, individual tutoring for some children, outreach to bring parents in as partners in the school, and extensive professional development.

The failure of large numbers of students can be prevented, by holding all students to high standards of accomplishment and putting into practice the methods that will help each student to reach those standards.

Washington, Jackson, and Lincoln are real schools, although their names have been changed in this report. They represent extremes of American public education — most elementary schools are neither as good as Washington and Lincoln nor as bad as Jackson. They are among the roughly sixty elementary schools in thirty communities across the country that the Carnegie Task Force on Learning in the Primary Grades visited over a two-year period, observing classes and talking with administrators, teaching staff, and children. *(See Appendix G.)*

In most of the schools that members visited, the task force was deeply impressed by the energy and commitment of educators to their students. At the same time, we were struck by sharp contrasts in the upkeep of the buildings, the atmosphere of the classrooms and corridors, the kinds of activities that constitute classroom instruction, the degree of children's engagement and exhilaration, and most especially the educational results the schools were achieving.

Some of the variations that we observed are rooted in the history of public education in this country. The public education system encompasses some 15,000 school districts and 63,000 elementary schools — each one reflecting particular

state and local policies, governance structure, tax base, student population, teaching force, classroom practices, and level of parent involvement. But other variations are associated with the growing diversity of the student population, especially in the larger states and urban areas. From 1980 to 1990, the number of children with limited proficiency in English increased nationwide by 26 percent,[1] and the percentage of children from minority groups — predominantly African American, Latino, Asian, and Native American — in the schools has grown steadily from 21 percent in 1970 to 32.5 percent in 1992.[2]

Yet these differences among schools and among students do not, in the view of the task force, explain why many schools are failing to educate their students to high levels, or why they are achieving starkly unequal results for different groups of children.

Making Every School an Exemplary School

Unquestionably, some schools, given a similar mix of students and resources, are much more effective than others. Some, like Washington, are high-performance schools where teachers like Ms. Thorpe are at the center of a system of supports that flow into the classroom from colleagues, the principal, parents, and the community. Other schools in even more difficult conditions, like Lincoln, have been transformed and are producing better, even superior, educational results. But too many schools, like Jackson, are stunting the education and development of the children entrusted to them.

As we have noted in chapter one, differences in the educational performance of schools are often mistakenly assumed to be the result of differences in students' inherent ability to learn. But schools fail for other reasons. Most significantly they fail because of the low expectations they hold out for many students; the heavy reliance of schools on outmoded or ineffective curricula and teaching methods; poorly prepared and insufficiently supported teachers; weak home/school linkages; the inability of schools to deal adequately with many children's health needs; the lack of accountability systems; and ineffective allocation of resources by schools and school systems.

The good news is that there are many innovative approaches that have been proven to be effective in making even very bad schools much better. Educators do not yet know all the solutions, but they know enough to begin to make the changes that will produce much higher achievement for every child and to weed out practices and programs that demonstrably have not worked. The failure of large numbers of students can be prevented, by holding all students to high standards of accomplishment and putting into practice the methods that will help each student to reach those standards.

The Framework for Effective Elementary Schools

From the accumulated evidence about the ingredients of school success and from members' direct observations in schools, the task force has identified seven major actions that, if implemented within elementary schools and school systems, would break the pattern of educational underdevelopment among the nation's children and enable them to reach high standards of knowledge and skill. These seven actions are to:

- Set high expectations for every child. Decision makers should set high standards, and an unlimited ceiling, for what elementary schools should expect each child to know and be able to do; engage teachers, administrators, parents, and the entire community in reaching consensus on those standards; and develop reliable ways of assessing whether children are on their way to meeting those standards.

- Enable educators to provide children with expert instruction. They should provide elementary school principals and teachers the time, opportunities, and resources to plan, work cooperatively, and take part in continual professional development, so they can develop the skills and practices they need to enable each child to meet high standards.

- Create high-quality, varied learning environments that support each child's learning. They should give principals, teachers, and other staff members access to the best programs, curricula, and instructional materials.

- Embed children's learning in caring and collaborative relationships. They should organize the human, technical, and social resources within every elementary school as a common enterprise, so that there is a clear, shared purpose to enhance all students' learning and respond to their need for stable, supportive relationships with adults.

- Recognize the connection between education and health. They should organize schools as health-promoting environments, establishing linkages between schools and health resources and encouraging students to adopt good health habits.

- Accept responsibility for the high-level learning of each child. They should instill within schools both a philosophical orientation and a practical approach that inspire everyone engaged in the educational process to take responsibility and accept accountability for seeing that every child learns to high standards.

- Provide the financing needed to support high-level learning for all children. They should correct misallocations and inefficiencies in the use of school funds and redress serious inequities in meeting children's needs.

Moving on all these imperatives will be a daunting task for most elementary schools, especially those that lag far behind, and for the school districts that oversee them; for this, they will need help and support from state education agencies, corporations and philanthropies, citizens, universities and research institutions, religious institutions, and other partners. But if this seven-point framework is followed, extraordinary schools can become not the exception but the norm for American children.

Set High Expectations for Every Child

Children are born ready and willing to learn. But too many elementary schools function as if they embraced the belief that groups of children from particular racial, linguistic, cultural, and socioeconomic backgrounds are inherently less able intellectually than other children. This is fallacious. As we have stressed, individuals do vary in their inborn abilities, but their academic performance is determined more by the time and effort they devote to learning and the time and effort invested by the educational system to teach them than the characteristics with which they were born.

If the nation could be brought to accept another idea — that every child can learn — and if the nation were unwilling to give up on even a single child of promise, then elementary schools would frame their goals and approach their work very differently from the way most do today, beginning with setting high standards for every child.

A key to strengthening the nation's elementary schools is to alter the basic assumptions about the quality of work that children can be expected to produce, so that each child is challenged to meet high expecta-

tions for educational performance. The most direct, forceful way to convey high expectations is to establish standards for what every child should know and be able to do by the end of the fourth grade and to develop benchmarks for judging each child's progress toward that goal. These standards should apply to all students, regardless of gender or language or cultural and ethnic background. As the recent report of the National Commission on Teaching and America's Future has stated, without publicly adopted standards, "we will continue what we have now — an unacknowledged national curriculum, predicated on low expectations, unaligned with our needs and developed, without public oversight, by publishers and test makers."[1]

A key to strengthening the nation's elementary schools is to alter the basic assumptions about the quality of work that children can be expected to produce, so that each child is challenged to meet high expectations for educational performance.

Standards differ from the kind of minimum competencies that have served in the past as the "floor" for children's learning. Standards are not a number or letter grade; they are a set of detailed explanations and illustrations of the knowledge that children can be expected to master in a particular discipline and of the level of proficiency they are expected to demonstrate, whether in reading, writing, history and social studies, mathematics and science, art, or physical education.

Standards take two forms: content standards and performance standards. Content standards define the range of knowledge and skills that students should be taught. These should be established for each of the major branches of knowledge that contribute to children's capacity to reason, create, communicate, solve problems, and maintain their health. Performance standards answer the question: When we look at a student's work in relation to content standards, how good is good enough? How can achievement be demonstrated that will meet these standards? A full spectrum of content and performance standards should also describe key stages or indicators of proficiency on the way to meeting the teaching and learning standards.

Today there is growing support for setting high learning standards for every student. Our two most recent presidents, most governors and members of Congress, and more than 80 percent of the American public now support the creation of high academic standards for elementary and secondary students. Work is under way at the national, state, and local levels to set or adapt standards in various disciplines. But this work proceeds cautiously and at times erratically, because there is disagreement about who should set the standards and what they should require. What is more, no consensus has yet emerged on how standard-setting efforts at various levels should be coordinated in order to produce an organized intellectual framework that schools can use to guide instruction. Finally, there is no consensus on how these standards should apply to children learning English in their elementary school years.

Current National Guidelines. Several national groups are developing sets of standards for different disciplines, and other experts are making recommendations to guide states and districts as they define their own standards. The National Education Goals Panel has created a broad framework for raising learning standards. The National Council of Teachers of Mathematics has developed its Curriculum and Evaluation Standards for School Mathematics,[4] which are widely used across the country and reflect broad agreement among scholars and practitioners on what math to teach and how to teach it. More recently, after a five-year multidisciplinary effort, the National Research Council of the National Academy of Sciences has issued the National Science Education Standards, which are based in part on the American Association for the Advancement of Science's Project 2061.[5]

One ambitious national effort to develop standards across several disciplines is the New Standards Project. Begun in 1990, it currently involves a consortium of states and school districts serving about half the school children in the United States. The project's performance standards for mathematics, English, science, and applied learning for elementary, middle, and high school education, reflect standards set by other countries, the views of professionals in the various disciplines, and public opinion about what students ought to know and be able to do. The New Standards are being used as a foundation for state and local standards in many jurisdictions. They are also the basis for a new system of performance assessments that schools can use to measure how well they and their students are meeting the standards.

State Responsibility. While a variety of organizations, districts, and schools are defining standards that reflect higher expectations for school-age children, the states have the primary responsibility for establishing and enforcing specific content standards. Working at the state level allows for the development of rigorous standards that also reflect the preferences and views of people who literally share common ground — even if they do not agree on every issue. For these reasons, many of the nation's governors and top business leaders, meeting at a 1996 education summit, pledged that standards would be in place in their states within two years.[6]

In their annual report card on state efforts to raise academic standards, *Making Standards Matter 1996*, the American Federation of Teachers (AFT) notes that forty-eight states and the District of Columbia are engaged in setting common academic standards for their students. The AFT report offers a set of criteria for determining if the states' standards reflect a commitment to raising performance in the core academic disciplines: whether the state sets out clear guidelines of what should be covered and achieved by specific times in students' school careers; whether it turns the content standards into performance expectations and assessments; whether it attaches consequences if students do not meet the standards; and whether it provides extra support

to students who need it to be able to succeed. By these criteria almost no state is perfect, and only a few come close, but the AFT reports a great deal of good-faith activity over the previous year and real progress on the part of many states since 1995.[7]

Local Action. If state-level standards and assessments are to improve achievement, local educators must review, adapt, and possibly augment them, translating them into day-to-day lesson plans and assessment practices. Only in this way can high expectations be woven into the fabric of the school program. As communities adopt standards, they go through a complex, collaborative process, and no two districts or schools will proceed in exactly the same way. There are, however, four key questions that local educators and parents must address:

- Do the standards adequately communicate what children should know and be able to do? Parents and teachers must understand what the standards actually mean, how they work, how they will be used in setting expectations for children, and how they will build upon the cultural background of students.

- Do the local district or school curricula mesh with the standards? In each subject area, there must be a good fit between the objectives of the units and lessons being taught in the classrooms and the proposed standards.

- What kinds of school-wide changes will be needed to make standards work in the classroom? How can the gaps between content standards and existing curricula be closed? What changes in instruction and assessment will be needed to help students meet higher standards?

- How can families and communities be engaged in a consultative process leading to the understanding and acceptance of standards? Standards will inevitably meet stiff resistance unless all the stakeholders in the community understand them.

Language-Minority Students. The nation's approximately 2.8 million limited-English-proficient (LEP) students have often been excused or excluded from high-level performance and from virtually all forms of assessment. But it is a mistake to think that LEP students need remediation of basic skills first before moving on to more complex matters. In fact, they should be provided with an equal opportunity to learn the same challenging content and high-level skills that are expected of students who are fully proficient in English. This can be done through a combination of specially designed academic instruction in English and instruction in the students' primary language. Accountability systems must be adapted so that students' academic progress can be measured even as they learn English, and special efforts must be made to assist LEP students in the exercise and mastery of higher-order skills in ways that build upon their primary and secondary language skills in addition to their cultural knowledge. Unless these measures are taken, current efforts to raise educational standards for all children may actually impoverish the educational experience of LEP students.[8]

Second-Language Learning. All of today's children will experience cultural diversity in tomorrow's workplaces and communities, and they will all need curricula that can help them learn about and appreciate different cultures and languages. A constructive way to address the issue of second-language learning is for schools to promote proficiency in two or more languages for *all* American students. In our rapidly changing world, fluency in other languages and understanding of other cultures are fast becoming requirements for many good jobs. In its site visits, the task force witnessed first-hand some successful and exciting elementary school programs that help both LEP children and native speakers of English become truly bilingual. As the benefits of knowing more than one language become more apparent, parents, community leaders, and employers may well increase the pressure on schools to institute second-language learning as early as kindergarten.

A constructive way to address the issue of second-language learning is for schools to promote proficiency in two or more languages for *all* American students. In our rapidly changing world, fluency in other languages and understanding of other cultures are fast becoming requirements for many good jobs.

Support and Accountability in New York City's Community School District 2

Many educators believe, and studies confirm, that the key to higher achievement is giving teachers much stronger support and at the same time holding them more accountable for high-quality instruction. But few school systems combine professional development and accountability into a systematic strategy for school improvement.

New York City's Community School District 2 is one exception. The district's twenty-four elementary schools, seven junior high schools, and seventeen alternative schools serve a highly diverse population of some 22,000 children, of whom 34 percent are Asian, 29 percent are white, 22 percent are Hispanic, and 14 percent are African American. The families of 50 percent of the district's students are at or below the poverty level. Undergirding all activities within the district is the shared conviction that there is a single overriding goal — to make sure that students receive high-quality instruction. But expert instruction requires continuing support for knowledgeable, caring teachers so that they can constantly improve their practice. Administrators at all levels are responsible for giving teachers this support and for ensuring that it is closely and consistently tied to each school's plan for strengthening teaching and learning.

Professional development: Because the most valuable resource in this effort is the shared expertise of teachers and administrators, the district provides numerous formal and informal opportunities for faculty members to observe and advise one another. Many of these opportunities, and the costs associated with them, do not show up as "professional development" allocations in the budget. For example, new principals are paired with "buddies" in other schools; groups of teachers travel with their principal to other schools, both within and outside the district, to observe classroom instruction; school schedules are arranged to allow teachers who work with the same grade level to plan together for all children in that grade; and all staff members are encouraged to observe and mentor one another. More formal professional development activities include:

- The professional development laboratory: A resident teacher works with small groups of visiting teachers for three weeks of intensive observation and supervised practice in his or her classroom. The resident teacher makes follow-up visits to the visiting teachers' classrooms to consult on practice.

- Professional development consultants: Experts in particular instructional areas work directly with teachers at their schools. Invited by the teacher, or at the principal's request, consultants observe individual teachers in their classrooms and give demonstration lessons.

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- Professional development institutes: Both during the school year and during the summer, the district offers institutes or workshops that are followed up by more intensive support for individual teachers. Workshops are offered in three levels of math for elementary school, in social studies, and in advanced literacy for experienced teachers.

Professional development planning reflects the district's top-down/bottom-up management practices. Each year, the superintendent and his staff set an overall plan that specifies long- and short-term instructional priorities. Within that framework, each principal presents an annual plan detailing the school's specific priorities and requesting a particular mix of services from the district's professional development menu, to be paid for by the school's allocation of district professional development funds.

Accountability: At every step of the way, professional development is linked with accountability. For example, the professional development plan that each principal prepares must include a detailed evaluation of the instructional strengths and weaknesses of the school as a whole, and of each individual teacher, and must show how the strengths will be utilized and the weaknesses addressed. This plan becomes the basis for the superintendent's annual formal review of that principal's performance. Likewise, every administrator and teacher works with the principal to prepare a plan for his own professional growth, which becomes the basis of his evaluation. In each case, the key question is: what are you doing to improve instruction?

District 2 places great store in the selection, nurture, oversight, and evaluation of principals. Effective principals can count on the district to support their efforts to recruit highly qualified teachers, to dismiss those who are ineffective, and to prevent the transfer of unqualified teachers from other districts.

The district's long-term priority is to establish a culture of continuous improvement in which every budgetary or personnel decision is based on how it will support improved teaching and learning. This approach to school improvement is labor intensive, and District 2 spends much more than many other districts on professional development — although much less than the superintendent would like. The district spends roughly 3 percent of its annual $84 million budget on professional development — with compensation for substitute teachers and contracted services being the major costs.

The results of this strategy are, of course, long term and cumulative. There is evidence, however, that District 2's strategy is already paying off: reading and math achievement has risen, and disciplinary problems are less frequent.

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Special Education. For entirely different reasons, the approximately 3 million children who now receive special education services have also been excluded from virtually all forms of assessment. By law, every student who is eligible for special education has an individual education plan (IEP) that is drawn up by qualified professionals in consultation with parents and updated on a regular basis. In theory, the plan constitutes a set of expectations developed for an individual child, based on his or her particular strengths, disabilities, and past achievement. In reality, the situation is often more complicated. Substantial numbers of children receive appropriate IEPs and are helped by the unique special education services (instruction, curricula, materials, and therapies) that are prescribed. For many others, however, standards set in this way are too low: they fail to take into account these children's capacity for higher-order thinking or their ability to profit from the regular elementary school curriculum. In this way, special education is a particular instance of a general trend within elementary education: high-level learning for some and a narrowing of educational opportunity for too many others, based on unfounded assumptions.

Today, special educators are coming to believe that the same content standards adopted for regular education should be applied to special education students, whenever and wherever possible, and that many more children with disabilities can appropriately be measured by the same assessments as those without disabilities. Except for children who are seriously mentally retarded or who have disabilities that clearly require adaptations in instructional methods, *no* child should be referred for special education — or receive an IEP — until the school has instituted a formidable array of supports to prevent that child from falling behind. Any plan that accepts a lower achievement goal for a child should be designed only as a last resort and should clearly specify the kinds of progress expected for that student in relation to the standards set for other students. The plan should prescribe the educational experience that would be most likely to produce such progress, with a heavy bias, as current law requires, toward placement of the child in the regular school program or in the "least restrictive environment" necessary to ensure progress.

It may not be reasonable to expect the most seriously learning-disabled students to meet primary grade performance standards by the end of the fourth grade, even with extraordinary support. It should be possible, however, to frame learning goals in terms of the same standards that apply for all children and to mark progress along the way with the same benchmarks that apply to all children. In no instance should a separate, diminished set of standards be applied to any group of students.

Enable Educators to Provide Children with Expert Instruction

Higher standards will be futile and unfair unless they are accompanied by an all-out, ongoing, nationwide effort to strengthen teaching and learning in every classroom.

Professional Development. Data from the National Center for Educational Statistics indicate that elementary school teachers are on the average less experienced and less prepared for the classroom than middle and high school teachers.[9] Professional development is, therefore, the key to enabling elementary school teachers to meet the new demands that new standards will impose on them. A recent study of more than 1,000 school districts found that increasing teachers' expertise is the most cost-effective way to raise student achievement.[10]

Virtually every school district in the nation engages in some form of professional development. Few districts, however, have a well-formulated, consistent strategy for analyzing or evaluating systematically how their spectrum of professional development activities aligns with the instructional priorities or practices of schools. As a result, districts are missing a vital opportunity to bolster teaching and learning. The National Commission on Teaching for America's Future reports some dismaying findings:

- U.S. school districts spend less than 1 percent of their resources on staff development — far less than the 8 to 10 percent of expenditures on training invested by most corporations and many school systems in other countries.

- Most U.S. teachers have almost no regularly scheduled time to consult together or to learn about new strategies, in contrast to their counterparts in many European and Asian countries.

- Thirty percent of teachers leave the profession in the first five years. New teachers often leave because they are given the toughest assignments and have little or no opportunity for ongoing education.

Mastering Effective Practices. There is mounting evidence that high-quality, focused professional development of educators can raise student achievement; indeed, helping teachers master effective practices is one of the best investments that taxpayers can make in children's learning. So why do schools continue to make such paltry investments in their teachers and principals?

One answer is that professional development is a hard sell. In an era of scarce resources, school boards and superintendents are reluctant to direct tax dollars to efforts where the payoff — children's learning to higher standards — may not be immediately visible. The benefits of professional development tend to accrue over time, in conjunction with other significant changes in the school program.

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Another answer is the widespread myth that teachers do not need to know much to instruct young children and that any college graduate who has taken a few education courses is well-equipped to succeed in an elementary school classroom. Added to this is the fact that, historically, most professional develop-

School-wide Programs Integrate Best Instructional Practices

Two decades of research and practice have produced a broad range of instructional practices that bolster student achievement in elementary school. Adopting these practices one at a time, or in one classroom at a time, can certainly enhance instruction in many cases, but sustainable school improvement requires a far more systematic, coordinated effort. It often requires suspending business as usual and committing the school as a whole to a multifaceted, integrated approach to strengthening teaching and learning in a core content area, such as reading or math, or across several disciplines. A number of organizations have designed such programs: some introduce a new curriculum; others offer a coordinated set of services, including curricula and materials, professional development, and parent outreach; and some go much further, aiming at total school redesign. In many cases, schools pay for these programs by redirecting discretionary funds, such as Title I monies, local education funds, and special education resources. Participating schools have also drawn upon state funds, desegregation funds, Goals 2000 or Eisenhower funds, bilingual education funds, and foundation or government grants. Here is a sampling of schoolwide programs:

Success for All and Roots and Wings: Success for All is designed to restructure elementary schools so that all children will be successful in reading, writing, and language arts. Developed by a team of education researchers at The Johns Hopkins University and the Baltimore City Public Schools and pilot-tested in Baltimore in 1987–88, Success for All is now in use in some 300 schools in seventy districts in twenty-three states. Roots and Wings fills out the Success for All model with programs in mathematics, social studies, and science.

Success for All emphasizes prevention and early intensive intervention. Success for All schools implement prekindergarten and kindergarten programs that include thematic multidisciplinary units; teachers reading to children and having them retell the stories; and a focus on letters and the sounds of words. In first grade, students are engaged in a program called Reading Roots, which balances the teaching of phonics with the use of meaningful, interesting texts. First graders who are struggling in reading receive one-on-one tutoring, usually from certified teachers. Students in grades two through six use Reading Wings, which emphasizes cooperative learning, writing, and reading comprehension strategies. A family support team in each school consisting of a social worker, attendance monitor, and other school staff members develops programs to engage parents with the school and to offer them strategies for helping their children at home; the team also addresses such issues as attendance, behavior problems, and the need for eyeglasses or health services. A program facilitator works within the school to ensure the quality and coordination of all program elements. Research on Success for All in nine school districts (Baltimore; Philadelphia; Charleston, South Carolina; Memphis; Montgomery, Alabama; Fort Wayne and Caldwell, Indiana; and Modesto and Riverside, in California) has found that the program consistently boosts reading achievement and reduces special education placements. Program adaptations for Spanish bilingual and English-as-a-second-language applications have been particularly successful.

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Roots and Wings takes the Success for All model and applies it to mathematics and to social studies and science. Math Wings is a constructivist approach to math, emphasizing cooperative learning, discovery, and concept learning. WorldLab, an integrated approach to social studies and science, engages students in simulations and group investigations that challenge them to take on roles as people in history, in other countries, or in various occupations. An evaluation of Roots and Wings on a state performance assessment found strong positive effects in all three subjects. Success for All and Roots and Wings are currently used in about 450 schools in thirty states.

Peer-Assisted Learning Strategies (PALS): This is a supplemental reading and math program that helps teachers work to ensure each child's success in classrooms where children's educational needs vary markedly. For part of the school day, students work together and take an active role in their own and each other's learning. Teachers receive a comprehensive manual that guides their activities. The math component of PALS, which meets twice a week for forty minutes, has two basic procedures: coaching and practice. Children work in pairs, moving back and forth between the player and coach role. A computer program helps teachers identify those children who need help in specific skill areas and select the most appropriate classmates to work with them. The reading component meets three times a week for thirty-five-minute sessions. Here, too, working with a partner is a key strategy. Stronger readers are paired with children who have weaker skills. The stronger reader reads first to provide a model and then switches to the tutor role as the weaker student takes his turn. As in the math component, teachers model these roles and help children master them. PALS is newer than some of the other schoolwide programs mentioned in this report, but evaluations suggest that participants — including high achievers, low achievers, and children with disabilities — make greater progress than students in traditional approaches. The U.S. Department of Education's Program Effectiveness Panel has approved PALS for inclusion in the National Diffusion Network of effective educational practices.

City Science: In 1990, San Francisco's public schools adopted a new, module-based science curriculum aimed at introducing a more hands-on, inquiry-centered approach to science instruction in the city's elementary classrooms. The result of a collaboration between the University of California at San Francisco and the San Francisco Unified School District, City Science played a key role in developing curriculum kits and helping teachers integrate them into their day-to-day work with children. The program provides stipends and graduate credit to teachers who take part in a summer institute and gives teachers a full year to prepare, individually and together, to implement the new curricula. In this way, City Science has developed a cadre of one hundred lead teachers who can act as peer coaches, helping their colleagues integrate the new approach into their classroom practice.

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ment dollars have reimbursed teachers for graduate courses, which in many districts need not relate directly to the teacher's classroom responsibilities, or they have paid for one-shot workshops with even less connection to a school's standards and curricula or the needs of diverse students. These hit-or-miss methods usually fail to address teachers' specific needs and rarely translate into lasting changes in classroom practice.

The kinds of high standards for children's learning that the task force endorses represent a new departure for American education. They ask children not only to know a great deal more, but also to engage in rigorous thinking about what they know; and they ask students to consistently apply their knowledge to practical as well as academic pursuits. Few schools now ask this of all children.

Many districts around the nation are at last realizing that professional development contributes fundamentally to school improvement when it is closely and consistently tied to the district or school plan for strengthening teaching; when it is designed to help principals and teachers help children meet high standards; and when every staff member is engaged in instructional improvement as part of his or her day-to-day routine. It works best when school staff members participate in selecting professional development activities that meet their needs.

Effective professional development is not something that can be "done for" or "provided to" teachers. Teachers must accept responsibility for expanding their knowledge, throughout their careers, in ways that not only enhance children's learning but also set an example of commitment to lifelong intellectual engagement. Teachers need to be involved in the design and evaluation of their own continuing education to ensure its relevance to their students' specific learning needs and the realities of their classrooms.

When schools are organized in ways that allow frequent interaction among teachers and with their supervisors, a great deal of in-service professional development can be done informally, in the context of ongoing conversations. More formal approaches, like study groups or peer-coaching arrangements, can also be effective. A more aggressive approach is action research — when a group of faculty members formulate a guiding question, review the relevant literature, collect and analyze data (such as student work, assessment results, or teachers' feedback on an educational issue or strategy), and draw conclusions leading to improved practice.

To learn good instructional practices, principals and teachers must have time. They should have the solitary stretches needed for individual reflection and also regularly scheduled times and places for collaborative study. Time for professional development cannot be tacked on to the end of an exhausting day. Finding time for regular professional development ranks among the toughest challenges faced by schools and districts, but without it schools have little

hope of substantially improving children's learning.

Besides time, teachers and other educators need access to written materials and electronic resources, including the Internet, as well as to the ideas and research findings presented at conferences and professional meetings outside school. Many teachers benefit from contact with colleagues through school-to-school networks, such as the California Alliance of Elementary Schools, or through subject-specific networks, such as the National Writing Project.

Create High-Quality, Varied Learning Environments

The kinds of high standards for children's learning that the task force endorses represent a new departure for American education. They ask children not only to know a great deal more, but also to engage in rigorous thinking about what they know; and they ask students to consistently apply their knowledge to practical as well as academic pursuits. Few schools now ask this of all children.

The curricula, texts, materials, and tests now in widespread use in American schools are not really designed to support students in learning the full range of subjects and skills in the depth that the new standards require. There will have to be an extended period during which curriculum developers, text and test publishers, and teachers themselves develop and validate the new materials and assessments.

Nevertheless, enough is known about how to engage students and help them learn

more and apply what they know, and there are enough examples of effective materials, for a strong beginning to be made now. As long as close attention is paid to whether children are strengthening their essential skills in the areas of reading, writing, and mathematics, schools need not fear experimenting with the new approaches and standards. Every school should begin now to improve the quality of its instruction for all students, including those of diverse linguistic and cultural backgrounds; to provide students with stronger incentives for learning; to set an optimal pace so that each child is constantly challenged; and to make more effective use of instructional time.[11]

Quality of Instruction. A key to teaching children to these higher standards is recognition that all children are actively trying to make sense of their world. They bring a wealth of questions, experiences, and "naive theories" to the school that can be the basis for creating engaging and challenging learning experiences. Starting with the children's own conceptions, educators can encourage children to express their thoughts and insights and involve them in projects that interest them, such as imaginative play with materials that also use their growing skills. In this way, children feel they understand what is going on, and their talk and active efforts provide teachers with direct evidence of what they know and how they are thinking.

But from the start, the talk and the activity of children have to be "accountable" — that is, students (and teachers, too) have to listen and take each contribution to the conversation seriously.[12] As the talk continues, students should begin to be asked to meet standards of logic and evidence. In these interactions, teachers need to model ways of applying the rules of discourse of the academic disciplines that lie behind children's activities. They should help the children begin to see the more general lessons that can be drawn from their specific experiences.

Good instruction is a continuing balancing act. Children should be exposed to specific facts, information, and vocabulary and be asked to practice specific skills, but they must also have a chance to see the big picture and to put facts and skills to work in solving larger problems, creating products, carrying out projects, and thinking and reasoning as well as absorbing the results of others' thought. Much today is made of the virtues of relevance and authenticity for keeping children engaged, but there can also be fascination in events or phenomena that are distant in space or time. Formal disciplines have their own beauty and their own value.

There is no one way to strike these balances. What is almost certain is that, if children encounter all of these approaches in a rich and continuing mix, they can hardly fail to be engaged, and their engagement will lead them toward meeting or exceeding the standards.

Incentives for Learning. Children need to have a clear idea of what is expected of them and what constitutes acceptable and excel-

lent performance. Their work should be arranged so that they are challenged to move ahead while believing that the next steps are within reach and that, although they may not always succeed, they will have a chance to if they try. Their successes should be celebrated, in large or small ways dependent on the size of the step just mastered. They should also have a sense of what will be expected of them later on, gained in part from seeing the work of other or older students and the display and celebration of their success. In this way, all students — even those for whom the next step may come easily — can be encouraged to stretch themselves.

Setting an Optimal Pace. One of the major tasks facing those who are developing higher standards for school subjects is to define in as detailed a way as possible the important stages children are likely to go through as they progress toward meeting the standard and moving beyond it. Those conceptions of stages of progress must then be translated into formal and informal means of assessment that teachers can use to determine what levels of challenge and what experiences are appropriate for each student. Teachers also need to organize instruction so they have the time to pay attention to each student, to assess where they are, and to vary their experiences as necessary to keep each individual on track.

One effective way to adjust instruction so that children are challenged to move ahead to learn materials that they haven't yet mastered is through one-to-one tutoring, usually with adult specialists, but also including cross-age peer tutoring, in which older students help younger ones with academic content (while increasing their own achievement as well). Another effective approach is cooperative learning, which challenges children to take responsibility for each other's learning. When students are given opportunities and incentives to work together in small groups toward clearly defined goals, all students gain at all achievement levels. Cooperative learning takes many forms. The more structured forms challenge students to explain facts and ideas on a regular basis and to give each other constant feedback. In this way, children individualize instruction for each other.

Children need to have a clear idea of what is expected of them and what constitutes acceptable and excellent performance.

Model Instructional Programs for Reading. Individual tutoring and cooperative learning both play a role in some of the more effective approaches to teaching reading, which is a crucial foundation for all further learning. Many schools eager to improve reading achievement are using several well-established reading instruction programs that use these and other proven techniques. Extensive comparative research has shown the effectiveness of programs like Reading Recovery, a one-on-one tutoring program for at-risk first graders that has been adopted in thousands of schools. The Peer-Assisted Learning Strategies approach developed at Vanderbilt University, which supplements a school's basic reading cur-

The School Development Program (SDP)

Led by James P. Comer, associate dean of the Yale Medical School, SDP grew out of a collaboration begun in 1968 between Yale University's Child Study Center and two New Haven, Connecticut, public schools. At both schools, virtually all of the students were African American, and the great majority (more than 80 percent) qualified for reduced or free lunches on the basis of family income. Both schools suffered from a wide variety of problems, ranging from poor attendance and low achievement to negative parent–staff interactions and low staff morale. A multipronged effort to improve the climate of a school as a whole and boost achievement, the project was initially funded by the Ford Foundation and Title I. By 1976, SDP had become a model for schools across the nation that are seeking broad school change. Today, some 700 schools, most of them elementary schools, use the Comer process.

SDP was the product of an era that also saw the birth of Head Start and the War on Poverty, which waged its battles on two fronts: education and community empowerment. Comer believed that schools' academic ills were rooted not only in day-to-day instructional problems, but in the breaking of the bonds between schools and the communities they served. He observed that in many communities, especially in low-income urban settings, schools that had once been woven into the fabric of neighborhood life had lost the confidence and trust of many of the families they served — especially those who felt rejected by mainstream society. Comer and his colleagues asserted that bridging this wide and dangerous gap required "a social action model...that attempts to serve children through social change."

SDP stresses the importance of aligning curriculum, instruction, and assessment, so that all three work in concert to support student achievement. It can be implemented over many years, and it does not require significant increases in staff, equipment, or material resources. The program has never prescribed a particular curricular or instructional approach; rather, it has focused on infusing principles of child development into classroom practice. In designing his model, Comer was influenced by developmental scientists' research showing that children need to form secure attachments with their teachers as well as by the work of social psychologists showing the harmful effects of the existing imbalance of power between children and parents, on one hand, and teachers and administrators, on the other. A school's participation in SDP begins when the school staff and the community agree to commit themselves to the program's goals and to participate in the required staff development; Yale provides facilitators and professional development support. The program now trains local cadres — in districts, state departments of education, and universities — to take on this role.

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Three guiding principles inform SDP:

- Problem solving without blame — that is, a "no-fault" approach to resolving conflict
- Consensus decision making based on child development principles
- Collaborative participation that leaves the leadership of the principal intact

Parents are welcomed into the school on a regular basis — not just when a problem arises — and are invited to assume roles that draw on their strengths and increase their sense of ownership: they may participate as classroom assistants, as members of the school planning management team, or as sponsors for school activities.

The school planning management team of twelve to fifteen people, led by the principal, meets once a week. The team, which is made up of teachers, parents, administrators, and a mental health specialist, has three major responsibilities: developing a comprehensive school plan that lays out long- and short-term child development, school climate, academic, and social goals; planning staff development activities aligned with those goals; and assessing and modifying the plan on a regular basis.

According to Comer, children's misbehavior can be greatly diminished by integrating a broad range of support services into the day-to-day life of the school. Every SDP school has a mental health team that is charged with ensuring that sound mental health principles are integrated into all areas of the school's operation, as well as with suggesting ways to prevent behavioral problems and to intervene early when they occur. Because a school's organization and policies have an impact on students' mental health, the team provides input to the school planning management team; it also provides school staff members with training in child development and mental health.

SDP appears to have lasting effects on school climate and student achievement. Four years after the Yale team had left the first two New Haven schools, evaluations showed no decline in the gains that had been achieved in language arts and mathematics. Even when budget cuts forced schools to eliminate the paid coordinator role, high achievement was sustained, suggesting that school improvement can occur with the committed support of parent volunteers. Studies conducted in the late 1980s showed significant differences in academic achievement (based on both grades and achievement test scores), as well as in attendance, classroom behavior, and group participation, between students in Comer and non-Comer schools.

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riculum, is also promising. A more comprehensive program is Success for All, which organizes an elementary school's entire reading program over a period of several years, providing curricula and materials, professional development, parent outreach, and assessment tools.

But for teachers to make the best use of high-quality instructional programs such as those above, all educators must become intelligent consumers, gathering solid information about their effectiveness with students.

Educational Technologies. Computer-based technologies are among today's most promising teaching tools. These new technologies allow students to explore new ideas, practice new skills, and solve new kinds of problems at their own pace, with the teacher as their guide or coach.

It is not enough for schools to set high standards and make systematic efforts to strengthen teaching and learning; they must facilitate the kind of relationships that result in supportive learning communities.

But, while the potential of these electronic media for improving instruction and learning is dazzling, the reality is that few teachers, even in schools that have computers, have the time, training, or the technical support they need to capitalize on a schools' investments in the hardware and software. Most teachers do not have easy access to a telephone, much less a modem. Only one in three teachers from kindergarten through grade twelve has had even ten hours of computer training.[11] Clearly, it could be some time before most schools are able to make effective use of computer-based instructional approaches. These issues are treated at greater length in chapter five.

Embed Children's Learning in Caring Relationships

Chapter two illustrates the importance to children of a web of supportive relationships in the community; the same is true inside the elementary school building. It is not enough for schools to set high standards and make systematic efforts to strengthen teaching and learning; they must facilitate the kind of relationships that result in supportive learning communities.

While adults tend to focus on whether children are developing the critical thinking skills they will need tomorrow, the children themselves are apt to be preoccupied with what is happening to them today. Ask an enthusiastic child in the primary grades why she enjoys going to school, and she is likely to say something like, "It's fun being with my friends" or, "I have a nice teacher." Ask a less engaged student why he dislikes school, and the answer might well be something like, "The teachers are mean" or, "The other kids make me feel stupid."

Whether children are engaged and motivated at school depends in large measure on the quality of the relationships they experience there. Students thrive when schools are organized in ways that assure continuity in their relationships with teachers and other adults. They want to be known as individuals and to feel that someone cares deeply about them. They want to feel that they belong in the school, that they are seen

Growing Healthy

During the years of promise, children develop many attitudes and behaviors that affect their health in later life. Growing Healthy rests on the premise that if children understand how their bodies work and appreciate the range of factors — biological, social, and environmental — that affect their health, they will be more likely to establish good habits during this formative period.

A comprehensive health education curriculum for children in kindergarten through grade six, Growing Healthy is administered by the National Center for Health Education and has been implemented in 10,000 schools in forty-one states, reaching more than a million students over the past twenty years. The program provides schools with teacher manuals, student workbooks, and supplementary materials such as films, anatomical models, and computer software. Students in each grade receive up to fifty-six lessons covering ten broad topics, including disease prevention and control, mental and emotional health, substance abuse, nutrition, family life and health, and personal safety. The program emphasizes small-group learning and peer teaching, allowing students to pose and solve problems collaboratively.

Growing Healthy emphasizes team teaching: before the program is implemented in the classroom, a school-based team — two teachers, a school administrator, and a resource person such as the school nurse — attend an intensive three-to-five-day training workshop. The workshop is conducted by experienced trainers who have taught the curriculum themselves.

Since its creation more than twenty years ago, Growing Healthy has undergone several evaluations. The most extensive, involving 30,000 students, compared children who had been exposed to one of four health curricula or had received no formal health education at all. Of these five groups, Growing Healthy students demonstrated the highest overall level of health knowledge.

by adults and their peers as part of a valued group, and that their parents are part of a regular process of communication and discussion about their school life.

School-based Decision Making. To provide a more supportive climate for children's optimal learning, many schools have begun to engage principals, teachers, and parents in decision making about the ways that the school will go about achieving its educational goals. Educating children is inherently a complex task, and members of the faculty and staff and parents must have the authority to address in a collaborative way the myriad unpredictable problems that arise as they work to meet all students' learning needs. The relationships forged through shared decision making can lay the foundation for a community that welcomes all students, expects success from each of them, and shares the responsibility for the quality of their achievement.

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For this approach to work, however, school-based decision makers — principals, teachers, and parents — need to have control over key aspects of the school program, including personnel, curriculum and materials, professional development, and the use of the school building, and they need frequent opportunities to exchange information and professional opinions and reach consensus on new directions. Collaborative decision making, in short, should extend to school-wide practices and policies that define the school's culture.

Increased authority for local schools is not an end in itself but a means of establishing an effective partnership among parents, teachers, and principals, so that the school can focus on improving classroom practice and ensure that children learn more. Obviously, this autonomy must not be used to segregate students on the basis of race or class, to provide a less adequate program of instruction to those who do not speak English, to endanger children physically or psychologically, or to depart in any way from schools' fundamental mission of educating all children to high standards.

Recognize the Connection between Education and Health

In general, the years from three to ten are the healthiest period in the human life cycle, but this should be no cause for complacency. Health risks to children are on the rise, especially in large cities. In particular, the incidence of asthma, the most serious chronic disease of childhood, has increased by one-third since 1981; over the same fifteen years, the childhood death rate from asthma has doubled.

The safety risks to children are also increasing. Children are becoming involved in violence at ever-younger ages, both as victims and as perpetrators.[14] Recent studies indicate that nearly two-thirds of children of some immigrant groups are exposed to so much violence that they are clinically at risk for post-traumatic stress disorder.

For a significant number of children, educational underdevelopment and failure may have roots in chronic illness or the effects of violence, including child abuse or neglect. Other kinds of health problems experienced by school-age children, like poor vision or obesity, are rarely life-threatening but if left untreated can seriously undermine school success or self-esteem.[15]

For all these reasons, elementary schools (and preschool programs) must provide an environment in which good health as well as education is pursued and reinforced throughout the day. This means offering nutritious food in the cafeteria, mandating smoke-free buildings, and providing children instruction that enhances their understanding of the principles of good health and nutrition and the behaviors that promote health, among other measures.

Millions of American children either have no health insurance at all or have insurance that does not cover multiple health problems, chronic disease, or disabilities. Elementary schools can play a key role in providing or coordinating health services for children. Since 1980, more than 600 school-based or school-linked health centers have been established across the country.

Few exist at the elementary school level, but the need for them is clear. A recent nationwide feasibility study of elementary school-based centers, conducted by the National Health and Education Consortium, found that centers can be cost-effective in addressing children's health and education needs, reaching children and their families in ways that community-based programs cannot.[16] School-based and school-related health centers can sustain the health components of early intervention programs like Head Start and link up with preventive health services like the Early and Periodic Screening, Diagnostic, and Treatment program, which serves all Medicaid-eligible children and youth under the age of twenty-one.

Accept Responsibility for the High-level Learning of Each Child

This chapter has identified several crucial elements of effective schools, including clear, high standards; ample time and resources for professional development; access to the best instructional approaches; caring support for students; strong partnerships with parents; and a health-promoting environment within the school. By reconfiguring elementary schools and school districts to incorporate these elements, it should be possible to create a system in which, perhaps for the first time, everyone can take responsibility — and accept accountability — for enabling every child to succeed. Responsibility and accountability in this sense are both institutional and personal.

Widespread concern that public funds for schools are not producing clear and necessary results has led to the formulation of new policies requiring the evaluation of schools based not on their inputs but on the strength of their results — children's achievement.

Accountability should be an integral component of a total system aimed at school improvement. Such a system assesses how schools are doing; feeds the information back to the schools to help them build on their own strengths and address their weaknesses; and provides the information to school districts and states so they know which schools need additional help and support. It takes responsibility, and accepts accountability, at every level for every child's achievement.

An Accountable School. When a child enters kindergarten, an accountable school assesses her or his initial skills in relation to a clear set of standards, decides how the child can best meet the standards, and keeps track of the child's learning. If the child encounters difficulty, the teacher or principal reaches out to parents and colleagues for help in determining whether extra assistance or a different approach are needed, and does everything possible to get the child back on track.

By the end of the first grade, all children in the accountable school are able to read and have a familiarity and facility with quantity and numbers. For those who may be lagging, there is a clear plan to provide extra time and resources to help them keep up. By the end of the fourth grade, almost all students are able to meet the standards in reading, writing, math, and science proficiency, as measured by test performance, portfolio assessment, and other means. Again, extra assistance is provided to those few children who might otherwise fall behind.

Just as teachers take responsibility for improving their teaching at every opportunity, principals and superintendents in the accountable school make sure that teachers have time and opportunity to think, plan, and learn. Administrators see to it that teachers have access to the teaching tools they need. They evaluate whether their schools are doing what it takes to meet the standards and intervene when necessary. They take responsibility for constantly improving their leadership skills. They investigate and select good programs and seize opportunities for professional development that research has shown can accelerate the

achievement of all students. They evaluate these programs to determine if they are working and take steps to correct problems.

Ensuring Accountability. But this is not a perfect world. As we have seen, there are schools that lose sight of their purposes and fail children badly. Human beings and human systems become distracted by the mundane pressures and conflicts of daily life and daunted by the sheer complexity of attending thoughtfully, moment by moment, to classrooms and schools filled with rapidly developing children. Some form of external accountability for children's achievement may, therefore, have to be imposed.

For most of the history of American schools, outside accountability has focused on the "inputs" that were thought to correlate with a good education. Schools were evaluated based on the qualifications of their teachers, their supply of textbooks, the ratio of teachers to children, the number of subjects offered, and "seat time" — that is, the number of hours and days students were exposed to classroom instruction. These inputs were embodied in school codes and regulations, and they remain important, but they do not reliably predict the achievement of an individual school, much less that of an individual child.

Widespread concern that public funds for schools are not producing clear and necessary results has led to the formulation of new policies requiring the evaluation of schools based not on their inputs but on the strength of their results — children's achievement. Some states and cities have begun to put in place systems for holding schools accountable by measuring student achievement based on standardized tests. While these methods have substantial educational and technical flaws, they at least reflect recognition of the problem.

More promising are state-managed school-quality reviews, such as those conducted in New York and California, in which teams of outside professionals make periodic site visits to review student progress with the school's administrators and faculty. Additionally, standards of practice derived from professional standards, such as those issued by the National Council of Teachers of Mathematics, the National Association for the Education of Young Children, and other professional groups, may well lay a new basis for evaluating schools.

Where teams of practitioners assess teaching and learning as well as student work and performance, the information can feed into recommendations for school improvement. When this is embedded in an overall approach to improving schools, an effective school accountability system can be seen as a way of asserting each school's *right* to receive from the district and the state the resources and assistance it needs to function properly.

When external reviews find that a school continues to fail its students despite substantial support, an intensive intervention program focused on school reform and restructuring should be put into place. If a school *still* does not make adequate progress in improving results for children, the administration and staff should be replaced as appropriate.

Beginning Reading

If there is one thing Americans can agree on about education, it is that primary schools should teach children to read. Reading is central to a child's experience of school. How well children learn to read becomes the core information that the school and the children themselves use to determine whether or not they are good students.

What has been learned about the teaching of reading underlines almost every point the task force has to make about the first stages of schooling in America and about children's learning. It shows that instruction can outweigh children's supposedly fixed "abilities." It shows the cumulative contribution of research to the understanding of children's learning and the failure to apply the lessons of research to classroom practice. It shows the importance of monitoring children's progress closely and adapting instruction to each child's individual needs. It shows the weakness of the current professional training of teachers. Lastly, it illustrates the ways that ideological stances can sometimes interfere with the school's ability to adopt the most effective practices.

Phonics and Whole-Language Approach. American education has a long history of conflicts over pedagogy. In the case of reading, the current form of the struggle is between the advocates of "phonics" and "whole language" approaches. The former focuses on the alphabetic principle and stresses teaching children the relationships between sounds and letters. The ability to "decode," proponents of the phonics approach say, empowers children to sound out and read any word in their spoken vocabulary. Therefore, training in letter-sound skill should take precedence over having children read short passages or whole stories.

Proponents of whole-language learning, on the other hand, think that reading, like speech, develops naturally and at individually varying rates, and they stress that since the goal is for children to be able to take meaning from text, they should be immersed in a linguistically rich environment. Reading and being read to from meaningful, extended material, and talking and writing about it, helps children see what reading and writing are for and why they would want to engage in them.

Those who advocate whole-language learning do not deny the alphabetic principle, but they emphasize a child's ability to reason and predict on the basis of context. They see phonics as just one of many ways that new words may be recognized and think that explicit phonics training and drill is unmotivating to children.

But now science has had its say. In her masterful summary and synthesis of these decades of work, *Beginning to Read*, Marilyn Jager Adams makes it clear that both sides have grasped part of the truth but that the extremes of each can seriously hinder the early reader's progress.[1]

This research shows that success in learning to read depends on the ability to distinguish, and attend to, the constituent sounds of words; to recognize letters; and to associate letters — and patterns of letters — with the sounds. Good readers, research shows, attend in a rapid, automatic way to almost all of the letters in the words they read; they also have a practiced sense of the likely associations of sounds in a language and of patterns within words and syllables. Their ability to decode

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words *rapidly* is a crucial support for understanding the meaning of clauses, sentences, and paragraphs, since it frees their attention from the word-by-word task in order to turn to the larger structures and to hold more of these in their minds.

Individuals differ in "phonemic awareness" — meaning their ability to attend to the component sounds of a language. But this ability is *not* highly correlated with general intelligence, and it can be taught.[2] With explicit instruction directing their attention to letters and sounds, and with practice using appropriately graded and engaging materials, students who seem to be low in reading ability can in time function within the normal range.

It is also true, however, that children come to school with different amounts of exposure and practice in these sound and symbol distinctions and associations. Children vary, too, in the extent to which the sounds and units of their home language or dialect correspond with those of "standard English." Confronted with such variations, schools cannot be sure whether the differences they find are a matter of the child's ability or the result of prior experience or both. All too often, schools respond as though they were dealing with differences in ability, and they quickly begin to sort students into groups where they are challenged differentially, with different results.

The evidence is that this response is very wrong. With explicit instruction, many children can get on track rather quickly, as though their initial difficulty were just a matter of their not having prior exposure to these aspects of language.[3] With appropriate instruction, even children who have more difficulty can be put on the path to effective reading. The percentage of students who seem to have more serious disabilities is rather small: some studies have found it to be as little as 3 percent; it is certainly under 10 percent. Thus, for almost all students, the focus on their ability, rather than on instruction, effort, and the expectation of success, is a mistake.

A Balanced Approach. Many children benefit greatly from explicit instruction on letter-sound correspondences, and it is wise to provide this even for children who seem to be progressing well — at least for the purposes of checking to make sure their underlying skills are strong. Not checking, and withholding direct instruction about, and practice in, these relationships in the mistaken belief that all children will learn them more naturally and developmentally in context, will doom many children to delays.

At the same time, the evidence is that phonics first, or phonics only, can also be deadly to children's learning. English orthography — the ways sounds are represented in spelling — is often irregular. If children are forced first to memorize and practice all the rules and exceptions in a vacuum, they may decide this is a hopeless enterprise. Discouragement is particularly likely among children who have not already had a lot of experience with being read to, who have not yet learned that reading can be enjoyable, and who have not already absorbed the other conventions of reading English — that reading goes from left to right and top to bottom, that those blocks of separate letters on the page are words, and that these marks on the page are supposed to tell a story or give information.

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Practice on the "pieces" of reading should, in fact, happen in the context of the whole act of reading. Much of reading should be about things that are interesting and relevant to the child, as the whole-language approach insists. The trick in the early stages, however, is finding reading materials that engage the child while providing practice on the specific skills in some well-thought-out order (no particular order has been shown to be "right," but eventual coverage is important) and at levels of difficulty that allow each child to recognize most of the words even if he or she has to work at some. Drill and practice on worksheets are not all bad, but these need to be subordinated in the children's minds to actual reading.

The answer is a balanced approach.* In fact, most effective teachers, whatever doctrinal label they may wear, have always found ways to incorporate elements from both approaches. The problem is that most teachers need more help and support in working out ways to balance instruction effectively to match the particular needs of each of their students. Surveys indicate that American teachers are usually given too little professional preparation for understanding the structure of language and its relationship to print; therefore, they are not in a position to make the best judgments about a particular child's skills and what he or she may need to work on or experience next to keep on track.[4] The materials available to teachers, moreover, are often not designed to compensate for these gaps in knowledge, or to supplement teachers' skills — by giving them ways of quickly assessing what students know and where they are in their progress, and pointing them to the right reading materials and tools to give the students the experiences that will keep them moving along.

Most of the books and readers available in schools come with only the sketchiest of indications about how challenging they may be to children, and the variety available in the classrooms may not match the variety needed by the children. Some early reading curricula are moving to remedy these limitations. The Open Court reading series[5] and Success for All[6] are two, but their examples need to be more widely adopted. Tests and indices, like the Degrees of Reading Power,[7] enable teachers to get a general sense of the level of difficulty of text a child can cope with and help them match this with reading materials that will be challenging but not discouraging. But these materials do not provide teachers detailed skill information about beginning reading.

Teachers need to learn much more about what to listen for as their students read aloud and what to do about it. The Primary Language Record and its California parallel, the California Language Record,[8] are tools that encourage teachers to keep running records of their observations of children reading (and writing), and they have the added virtue of enlisting the children's own and their par-

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*Note : The thirty years of research reviewed by Adams, much of it sponsored in a heroically sustained effort by the National Institute of Child Health and Human Development,[9] has confirmed and deepened Jean Chall's observations in her influential 1967 book, *Learning to Read: The Great Debate*,[10] and made them inescapable. Former California State Superintendent of Public Instruction Bill Honig has recently published an excellent, accessible review of this work with practical recommendations for what a comprehensive, balanced approach to reading instruction should entail, *Teaching Our Children to Read*.[11] Forceful in its evidence and advice, it also represents a brave look at some of the reasons his own state, which has been a leader in its commitment to whole language, has fared rather poorly in recent national comparisons of reading performance.[12]

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ents' attention to their progress and reading interests. But these materials could be strengthened by encouraging teachers to focus more on specific aspects of progress in the early stages.

Much more attention needs to be given to the ways that early reading instruction is organized in schools, so that teachers can give individual attention to children and sufficient time to read and practice. Classes of thirty children make achieving this extraordinarily difficult. Smaller reading groups would be better. As it is, most children in a class are left to their own desultory or worksheet-driven devices as the teacher deals with one subgroup at a time. Success for All[13] demonstrates that a school's resources and personnel can be reorganized during extended parts of the day so that much smaller groups can be working intensively, each with its own trained teacher. With closer attention available from the teacher, the children can be grouped by level but assessed frequently and regrouped in response to each child's progress.

Success for All and Reading Recovery[14] also show the power of giving students short-term, intensive individual attention and tutoring, triggered by early identification of those in need of additional help so that they remain in the regular class and catch up with their peers, rather than being shunted off, often permanently, into a special education stream. Various forms of peer tutoring and interaction can also be used to keep children on task and moving ahead when their teachers are engaged with other children.[15]

As rapid decoding is consolidated, children need to be moving on to more and more complicated and richer text. At this point it becomes clear that reading is much more than an independent skill; it is also a reflection of everything that a child already knows and of all of the things he or she wants to know or do next. It is clearly true that the essential way of improving reading is to read — for pleasure and for information — as much as possible, though it is helpful if the teacher can ensure that much of that reading is, again, at a level that challenges but does not discourage.

The most effective readers come out of experiences in which they not only read but are given specific support in thinking about how they read and how language and syntax are structured — about how they know what they think they know from what they have read. Children need to read a lot, but they also need to be encouraged to reflect on what they read, and sometimes it helps to put labels on the strategies and tactics they use, *after* they have actual experience in using them, so that they can be encouraged to exercise these more.[16]

Responsibility of Parents, Schools, and Community. These pages have been about learning to read in the context of schools. It is clear that children vary in their familiarity with reading and its components mainly because of the variability in their experience before and outside of school. It is the school's responsibility to understand these sources of variability and to adapt instruction to them to bring each child up to a high level of effectiveness in reading. But the school's job will be easier, and the children's chances better, if parents, preschool educators, and staffs of after-school programs also immerse children in a linguistically rich environment, where reading is central and commonplace and where those who care about the children show them what reading is about and how it can open the door to new worlds of understanding and fun.

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Commission (FCC), to call it "the most important educational institution in America."[1] And yet, the designers of this key institution in children's lives have largely been absolved of any obligation to meet the needs of their very impressionable young viewers.

Safeguarding Children's Interests

At the time that television was introduced, it was hailed as a medium for enhancing education, cultural life, and democratic processes. In the early 1950s, when television was still new, broadcasters were airing exemplary children's programs like *Captain Kangaroo*, *Ding Dong School*, and *Kukla, Fran and Ollie*. A decade later, however, when more than 90 percent of American homes had sets, most commercial broadcasters had shifted their emphasis to selling products.[2]

Now, with the growth of home computers and modems for going on-line and, in coming years, the expected merging of signals from telephone, television, CD-ROM, and multimedia computers, similar optimistic claims for their informational, educational, and cultural importance are being made. Inevitably, therefore, the question must be asked whether the needs of children will be met in this new media environment or whether, once again, a potent set of educational tools will be undermined as the technologies and the software for them become more widely used.

The communications revolution ushered in by the computer differs in some respects from the one brought about by network and cable television. Unlike television programming, in which information is "delivered" into the home and forces passive viewing, computer-based media, including CD-ROM and the World Wide Web, have interactive capabilities that offer exciting possibilities for student-centered or project-based learning, for invention and creative expression, and for communication and collaboration. For older students and adults, the emerging media are opening up avenues for scientific endeavor, entrepreneurship, and professional pursuits of many kinds. Already, computer skills have become the prerequisite for good jobs and a basic requirement for full participation in society, so that young people who do not master these skills as they grow up will find themselves at a disadvantage.[3] Knowledge of the Internet's Web and varied sophisticated computer applications will soon be of commensurate value in gaining access to information and attractive opportunities.

The Challenge. But even with these differences, traditional broadcast media and the new interactive media raise similar public concerns about how to safeguard the interests of children. In the case of television, the challenge for industry representatives, parents, educators, children's advocates, academics, health professionals, foundation leaders, and willing volunteers is to work together to improve the quality and expand the amount of truly enlightening and informative as well as entertaining family-friendly shows. They must combine forces to minimize children's access to violence- and sex-laden content, foster children's critical

invest these dollars typically are made by district personnel, without regard to a school's instructional agenda, or by individual teachers who apply for reimbursement for courses that have little relation to the school's goals.

More Effective Use of Funds. If elementary schools are to teach all students to high standards, the first challenge will be to make better use of the current national investment in public education. The intensive reading program that has been shown to raise student achievement, Success for All, can be implemented in a school at an estimated annual cost of $300 to $700 per pupil above the basic school budget.[20] This amount could be made available to local schools through a combination of federal and state compensatory funding sources. The problem is, most of the schools that receive these funds long ago allocated them to other programs that are probably not as effective.

As difficult as such decisions may be, schools must find a way, through the process of reallocation, to put existing funds toward programs that work. The ancient tradition in school budgets (and most other human enterprise) of letting sleeping dogs lie and funding new initiatives only when additional funds become available is no longer tenable. More can be done — much more — with existing resources to provide much higher achievement for children.[21]

On the other hand, our nation's system of elementary school financing makes inadequate provision for the added costs of educating children who need additional time and help to reach new performance standards. Any strategy to enable all children to

programs. With this regime, a child typically sees as many as 20,000 television commercials each year.[8] By some estimates, at least 8 million children are regular viewers of daytime talk shows, such as those hosted by Ricki Lake, Geraldo Rivera, and Jerry Springer.[9] Violent and prurient content is pervasive even in children's programs. In their book *Abandoned in the Wasteland*, Newton Minow and Craig LaMay report there are about 20 to 25 violent acts per hour in children's programs, leading the average preschooler to witness about 600 violent acts per week.

The positive educational and social value to young children of high-quality children's television has long been demonstrated in programs like *Sesame Street* and *Mr. Rogers' Neighborhood*, aired over the Public Broadcasting Service.

Effects of Heavy Television Viewing. Studies show that children who are heavy viewers of television (four hours or more per day) tend to put less effort into schoolwork, get lower grades, and have weaker reading skills than light viewers (one hour or less). They also have fewer outside interests and less developed social skills, although whether television itself undermines performance in all these areas or whether children who spend so many hours glued to the TV set simply have no time for other pursuits is not yet clear.[10] Expert consensus is that repeated exposure to gratuitously violent programming also can have serious consequences for children, producing fear, anxiety, aggressive feelings, and even violence.[11]

Preschoolers who are regularly exposed to adult shows, such as game shows and action-detective programs, appear to be less imaginative in their play and use less descriptive language than their peers who are not so exposed.[12] For children ages six and seven, watching sitcoms and action-packed programs appears to undermine school performance.[13]

Television's Positive Value. The positive educational and social value to young children of high-quality children's television has long been demonstrated in programs like *Sesame Street* and *Mr. Rogers' Neighborhood*, aired over the Public Broadcasting Service. More recently, Nickelodeon, Disney, and the Learning Channel on cable have offered exemplary programs to young children, even though they are advertiser supported. These programs, together with those aimed at elementary school ages, such as *Mathnet*, *Square One TV*, *The Magic School Bus*, and *The Puzzle Place*, offer young people opportunities to learn ways to improve life on the planet, develop social skills and an understanding and appreciation of other groups, and use math and science to solve problems. There are also islands of high-quality programming for school-age children on the networks, such as the recent

No Silver Bullet

Both the experiences of successful elementary schools throughout the country and long-term intensive research efforts over the past two decades have clearly identified the crucial components of more effective elementary schools. Americans can now be confident that elementary schools have the potential to assure that virtually every child will leave the fourth grade with, at a minimum, a solid foundation in reading, writing, mathematics, and science.

The pressure for quick results may tempt teachers, parents, policy makers, and education advocates to fixate on just one of the seven elements of successful school improvement put forward in this chapter. But setting standards only, or concentrating on professional development only, will *not* force the appropriate focus on improving children's learning. High standards, for instance, are a vital component of improved education, but setting standards without giving schools the full range of help and support needed to meet those standards simply exposes the large gap between schools for the well-off and schools for the disadvantaged. Educators have learned the hard way that there is no silver bullet in school reform. All the elements of successful schools must be implemented together if they are to help children reach the much higher standards that the nation is now setting for them.

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Chapter 5

Learning in the Electronic Playground

When we first encountered Jessie and her friends, they were crawling over equipment in a crowded park playground. But many of their peers were not running and playing in the park; they were enthralled in another kind of playground — the all-enveloping world of television. As they have grown older, some of Jessie's playmates have become expert users of other equipment in this electronic playground, such as videocassette recorders and videogame entertainment systems. A few are exploring new worlds through CD-ROMs. One student has her own Web site provided through her school, and she is talking with students from another school through e-mail. Another is using a new software program to create his own artwork and music.

In previous chapters, the task force has considered how the key learning institutions in American society can begin to reverse the widespread pattern of educational underachievement among children from ages three to ten and to provide a strong foundation for healthy development and lifelong learning. The report suggests ways that parents and communities can foster a love of learning in their young children; it urges a strengthened system of early education and child care to prepare children for a successful elementary education experience; and it asks public schools and school systems to apply the principles of best practice to ensure that children meet more rigorous learning standards. Those institutions that have the primary responsibility for children's education are asked to do whatever it takes to ensure the educational success of all of America's children.

But at the end of the day, electronic media may have a more powerful effect on children's thinking, perceptions, attitudes, feelings, and understanding than all these learning institutions put together, for better or worse. Because at the end of the day, most children are watching television. Television has had a major shaping influence on children's lives for almost fifty years now, prompting Newton N. Minow, former chairman of the Federal Communications

Commission (FCC), to call it "the most important educational institution in America."[1] And yet, the designers of this key institution in children's lives have largely been absolved of any obligation to meet the needs of their very impressionable young viewers.

Safeguarding Children's Interests

At the time that television was introduced, it was hailed as a medium for enhancing education, cultural life, and democratic processes. In the early 1950s, when television was still new, broadcasters were airing exemplary children's programs like *Captain Kangaroo*, *Ding Dong School*, and *Kukla, Fran and Ollie*. A decade later, however, when more than 90 percent of American homes had sets, most commercial broadcasters had shifted their emphasis to selling products.[2]

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The communications revolution ushered in by the computer differs in some respects from the one brought about by network and cable television. Unlike television programming, in which information is "delivered" into the home and forces passive viewing, computer-based media, including CD-ROM and the World Wide Web, have interactive capabilities that offer exciting possibilities for student-centered or project-based learning, for invention and creative expression, and for communication and collaboration. For older students and adults, the emerging media are opening up avenues for scientific endeavor, entrepreneurship, and professional pursuits of many kinds. Already, computer skills have become the prerequisite for good jobs and a basic requirement for full participation in society, so that young people who do not master these skills as they grow up will find themselves at a disadvantage.[3] Knowledge of the Internet's Web and varied sophisticated computer applications will soon be of commensurate value in gaining access to information and attractive opportunities.

The Challenge. But even with these differences, traditional broadcast media and the new interactive media raise similar public concerns about how to safeguard the interests of children. In the case of television, the challenge for industry representatives, parents, educators, children's advocates, academics, health professionals, foundation leaders, and willing volunteers is to work together to improve the quality and expand the amount of truly enlightening and informative as well as entertaining family-friendly shows. They must combine forces to minimize children's access to violence- and sex-laden content, foster children's critical

understanding of the messages of advertising and programming, and limit the marketing of products of dubious benefit directly to young children, whether in programs or commercials. This is a tall agenda — one that can occupy the energies of citizens for years to come.

For the new media, the no-less-daunting task is to work for the creation of high-quality content in the information and programming designed for children, to provide constructive opportunities for interactive learning and doing among children, to discourage the production of programs and advertising that are exploitative of children, and to ensure the equitable access of all young people to the communications system that is fast becoming an integral part of daily life.

The 15,000-Hour Curriculum

Television has achieved its distinctive power in American cultural life because of its very ubiquity in homes and communities and because of its compelling hold on young minds. From infancy on, children are exposed to the continuously flashing images and raucous mix of comedy, cartoons, sports, violence, and sex in programming and product advertising on the television screen. Television shows and commercials are the accompaniment to most activities in the home, whether or not they are actually viewed; they act as a baby-sitter; they are frequently the only occasion for bringing family members together; and they displace other activities that children might be engaged in, including quiet reading, play with peers, and organized sports.

On school days, children watch an average of three hours of television per day and on weekends and holidays between six and eight hours a day. By the time they reach the age of eighteen, Americans typically have watched at least 15,000 hours of television, far more than they have spent in the classroom.[4] These figures do not include the time children spend using videocassette recorders, which are now owned by at least two-thirds of U.S. households, and videogames like Nintendo.[5]

Some children watch much less or more than these averages. For example, boys watch more television than girls, very young preschool children and teenagers watch more than elementary-age children, and poor children of all ethnic backgrounds watch more television than more affluent children.[6] Preschool children of working mothers watch less television than children of stay-at-home mothers, perhaps because many are in child care programs that limit or avoid television.[7]

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While there are many good children's programs on television, the sad fact is that more children watch noneducational cartoons and adult fare, much of it without adult supervision, than watch educational

programs. With this regime, a child typically sees as many as 20,000 television commercials each year.[8] By some estimates, at least 8 million children are regular viewers of daytime talk shows, such as those hosted by Ricki Lake, Geraldo Rivera, and Jerry Springer.[9] Violent and prurient content is pervasive even in children's programs. In their book *Abandoned in the Wasteland*, Newton Minow and Craig LaMay report there are about 20 to 25 violent acts per hour in children's programs, leading the average preschooler to witness about 600 violent acts per week.

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ABC series of after-school specials, unfortunately discontinued because it did not acquire a large audience share. Cable shows on the History Channel, Discovery Channel, A&E, and TBS also produce programs of educational value to older children.

Sesame Street, one of the earliest children's programs with pedagogical content, has been subjected to repeated evaluations showing its positive effects on children's cognitive development, acquisition of language skills, and social adjustment. In 1995, John C. Wright and Aletha Huston of the Center for Research on the Influences of Television on Children at the University of Kansas reported their four-year study looking at the effects of high-quality children's educational programs on low-income preschoolers' academic skills, school readiness, and school adjustment.[14] They concluded that children's consistent viewing of *Sesame Street* (the program most watched) and other programs of similar quality plays "a positive causal role in their development of readiness for school" and is a positive predictor of teachers' judgment of children's overall school adjustment in the first or second grade. They specified that watching high-

Helping Your Children Get the Best Out of TV

- Get the facts: Many parents have only a vague notion of their children's television habits. It may be helpful to keep track for a week or two of what they are watching and for how long, including whatever they may be watching while they are away from home (nearly 70 percent of child care facilities have a television on for several hours each day). Children can take part in this data collection process. Depending on their age, they may enjoy establishing their own rating system, evaluating the content of the shows they watch, or counting the number of commercials they watch in a week.

- Set clear limits: Different families have different ideas about what is reasonable. Some limit their children to one hour or less on school nights and two hours on weekends; some prohibit television viewing altogether on school nights; others allow it only after homework is finished. Many experts recommend that school-age children should watch no more than ten hours of TV per week. Parents may want to designate certain times of the day when the TV is off-limits — for example, at mealtimes, while children are doing homework, or after 8 p.m. or 9 p.m.

- Urge selecting rather than "surfing": It helps to be positive, perhaps making a project of selecting shows your children may see. Ground rules about the number and kind of shows your children may watch are necessary, and parents and children might go through the TV listings together, marking the programs that fit within the ground rules. Removing the remote control may help some children break the habit of "channel surfing," which results in a disjointed, fragmented experience and exposes children to a wide range of programs that may not be appropriate for them.

- Educate your child about advertisements: Help your young child distinguish between programs and commercial messages; merchandisers often blend the two. Help him understand that commercials are meant to make people buy things and that they can sometimes be exaggerated and

quality children's educational programs was a positive predictor of letter–word knowledge, math skills, and vocabulary size. In contrast, children's heavy viewing of noneducational cartoons and adult programming was found to have negative effects on readiness for school.

Notwithstanding ABC's experience with an after-school show, there are signs that the audience for good-quality children's programs is increasing. For example, 85 percent of households with children between

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confusing. Encourage your child to think about advertisers' claims and innuendos and to compare them with his experience. Can Swifty Shoes really make you run faster? Will kids really like you better if you pack Eat-Em-Up Cookies in your lunchbox? When you shop together, help him understand the impact of TV advertising on the choices he makes (or asks you to make).

- Talk with your child about the shows she watches: Spend time watching a range of programs with your child. This will allow you to keep track of what she watches and to discuss both the programs you approve of and those you want to avoid. If you watch the news together, talk about why the producers chose to begin with a particular story, or why other kinds of stories don't get much time. When you watch sitcoms or dramatic programs, talk about how different kinds of people are portrayed and how different kinds of problems are solved.

- Help your child compare television with reality: As children move through their first decade, calibrating television against reality becomes a major concern. Very young children tend to assume that television objects behave like ordinary objects — that a bowl of cereal will spill if the set is turned upside down, for example — or that there are tiny people inside the set. By the age of four, they begin to differentiate more easily between TV images and the real world. Whereas younger children use formal features, such as animation, to identify what is "pretend," by seven or eight they are more concerned with the plausibility of characters and plotlines. By age ten, they have a greater interest in how TV shows are made. At every point along this continuum, parents can help children to understand the nature of TV — and by extension, other kinds of aesthetic experience. You can ask simple but thought-provoking questions like, "Do you think it would happen that way in real life?" or "Why does it make us laugh when a cartoon character falls off a cliff?"

the ages of two and five watch public television each month. The Discovery Channel recently made ratings history by gaining 57 percent of the children's viewing audience, according to Reed Hundt, current chairman of the FCC.[15]

Making Good on Television's Promise

Since the FCC deregulated children's television in 1984, the marketing of toys, computer games, movies, sweets, and other products to children in the programs themselves has been permitted. Even with modifications of these practices in the Children's Televi-

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sion Act of 1990, it is clear that market-driven programming is here to stay and that advertisers are increasingly targeting children, who now represent a multibillion dollar business and whose spending power has risen rapidly. In 1995, children under age twelve spent $14 billion and teenagers $67 billion. Together they influenced $160 billion of their parents' annual spending.[16]

Expanding Children's Educational Programming. From the President to Congress to the FCC, pressure is mounting to expand educational programming on television for children. The Children's Television Act of 1990 requires local stations to provide programming specifically designed to meet the "educational and informational" needs of children as a condition for renewing their licenses. "Educational and informational" television is defined as "programming that furthers the positive development of children sixteen years of age and under in any respect, including the child's intellectual/cognitive or social/emotional needs."[17]

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In 1991, the FCC assumed the role of regulating and implementing the act, but it did not specify the amount of educational programming that stations must air, nor did it offer more specific criteria that programs must meet to be considered "educational." (Some producers argue that cartoons are sufficiently educational.) Finally, in August 1996, the FCC established a minimum of three hours a week of educational programming that stations must air for children between the hours of 7:00 a.m. and 10:00 p.m. to qualify for license renewal. Three hours a week would certainly "prime the pump," but public interest organizations like the Washington, D.C.-based Center for Media Education have pressed for seven hours[18] — still less time than networks were devoting to exemplary children's programming forty years ago.[19]

A Better Media Environment. The new minimum standards are steps in the right direction. A great deal more consideration, however, needs to be given to policies and safeguards that will create a better media environment for children — one that promotes learning and healthy development. Some of the provisions of the Children's Television Act are very helpful, such as the limit the act places on the minutes of advertising permitted in network and cable programs for children. But these have little effect on programming in other media, including the many emerging interactive services. The definition of "educational" should be more precise than it is, perhaps through enlisting the help of respected, independent educators, with contributions from teachers and parents.

The value of the v-chip, which will soon be a required component of all new television sets, is in giving parents the ability to decide which shows their children should not watch. But parents and children need more than veto power; they need more positive choices; they need a host of good programming so that when family members sit down to watch television together, the lessons taught by parents and teachers and their desires for their children are not undercut. And they need choices that do not split the family into different rooms.[20]

For good-quality educational programming to thrive, advertisers and the broadcast industry must be convinced that they can make money supporting such shows in a competitive world. *Every* institution that has a stake in children's learning must find ways to create incentives for industry leaders to support good-quality programming for children and to win audiences for it. One place to begin might be to assess the true size of the television audience for high-quality children's programming, which some suspect is much larger than the Nielsen system suggests.[21] Another proposal is for voluntary monitoring by advertisers of the quality of programs in which their products appear. This would begin with television and then extend to other electronic media.

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Plugged In

In a handful of communities across the nation, efforts are under way to improve the access of people in low-income communities to today's information technologies. New initiatives have been organized in New York City's Lower East Side settlement houses, for example, and at the Edgewood Terrace public housing complex in Washington, D.C. In addition, the U.S. Department of Housing and Urban Development is beginning to implement the privately funded technology-based Campus of Learners program at twelve to fifteen housing projects across the nation. By making technology available to the public in schools, community centers, housing projects, libraries, malls, and churches, these programs serve both schoolchildren and their families.

One of the best known programs is Plugged In in East Palo Alto, California. Perhaps nowhere in the country is the digital divide as dramatic as it is here. Located in the heart of Silicon Valley, East Palo Alto is home primarily to low-income African Americans, Latinos, and Pacific Islanders, most of whom have little access to the technological developments all around them. East Palo Alto lacks the resources available in many neighboring localities; for example, there is no high school whose staff and facilities could be called upon for computer classes.

In the early nineties, the Boys and Girls Clubs in East Palo Alto began organizing computer activities for children in the neighborhood. Bart Decrem, a volunteer, realizing that the community could benefit from a more ambitious and inclusive program, created Plugged In. Plugged In offers classes, one-on-one assistance, and activities designed for children of six and up. The organization serves some 350 people each week at its center on East Palo Alto's main street, which is open from 9 a.m. to 9 p.m. on weekdays; it also operates on Saturdays and Sundays. Its thirty computers are networked to each other and provide access to the Internet as well. Children and their families can drop in after school or on weekends to learn computer basics, explore the Internet, or get help with a research question, job search, or homework project. The center's well-trained multiethnic and multilingual staff is always available to help.

Plugged In maintains strong partnerships with other community groups, including libraries and recreational programs, and provides training in technology and the Internet to the staff of local schools.

Promoting Media Literacy. Children need opportunities, in and out of school, to reflect on their media experiences and to think critically about the world as it is represented to them through various media. Some schools have instituted media literacy curricula, particularly in the higher grades, to help children become more active, analytic users of media technology. A more promising approach for children ages three to ten is to infuse the concepts of media literacy into everyday classroom experience.

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Preschool is not too soon to begin. At about age three, children begin to gain awareness that television objects do not behave like ordinary objects. At about age four, they realize that television images represent an "absent reality."[22] Preschool teachers can help young children grasp these concepts. In the primary grades, children who are still perplexed over how to distinguish television stories from reality can make great strides in this understanding with guidance from teachers and parents. Not only can they gain a clearer understanding that television shows and other types of programming are fabrications, but they can become quite sophisticated critics of actors, scripts, plots, and merchandising tactics.[23]

Opportunity and Danger in the Digital Age

Americans are moving into cyberspace at an astonishing rate. The number of households equipped to go on-line (having both a computer and a modem) reached 18 million in 1995. Almost one million children in the United States are now using the World Wide Web, and 3.8 million have Web access. On-line services, such as America Online, Prodigy, and CompuServe, are "gateways" to the Internet. The largest, America Online, now boasts more than 6 million subscribers. The number of new Internet users is estimated to swell by as many as 10,000 each day in the United States alone.[24] Many media forecasters predict that, in time, on-line services will surpass television in terms of their influence on children's lives.[25]

As it is developing, the World Wide Web has immense potential for engaging and educating children, both at home and at school. It can dramatize information in exciting multimedia formats — print, graphic, audio, and video — and provide access to archives and research data that libraries do not generally offer. A third grader who is preparing a report about Count Basie can download biographical material, extensive information about the history of jazz, photographs, video clips of performances or interviews, and snatches of recorded music — all without leaving her desk. Through hypertext links, the Web also offers pathways to other times, other places, other peoples. There are news groups, learning networks, and other forums for discussion that can connect students and teachers for a variety of purposes.[26]

With computer-based technologies, including CD-ROM, students can find intriguing ways to solve problems at their own pace, to use their imagination, to play with ideas, to create and invent. Second-language learners can get help in two languages. The possibilities are exhilarating. But these tools will not fulfill their promise for children until our nation makes an all-out effort to ensure that the content and format of these media do in fact foster children's learning and well-being and that they are accessible to all.

Most people look to on-line media for information and educational programming, but advertisers tend to see the Internet as a marketer's dream — a virtual shopping mall. More and more informational services deliver content with appeals to sample and buy products.[27] In this emerging "browse and

buy" environment, children are invited to provide market researchers with detailed information about their habits and preferences, and they are urged to order and sample, with the click of a mouse, a wide range of merchandise — including some types that are potentially damaging to their physical and emotional health.[28] The new electronic playground, in short, is a supreme expression of human ingenuity, involving a unique mix of imagination and entrepreneurship, and yet — children can get hurt in this playground.

Ensuring Equal Access to the New Media. Perhaps more worrisome than the commercialization of the new electronic media is the real possibility that millions of children will not have access to these tools at all. Personal computers and other advanced educational technologies are increasingly viewed as one of the more powerful forces widening the social and economic gulf that already divides Americans. Today some of the best children's television programs, including those on Nickelodeon, the Learning Channel, and the Discovery Channel, are still available only to families that can afford cable services. Nearly two-thirds of American homes now have cable, but the one-third that do not have it include a large number of children.[29]

Perhaps more worrisome than the commercialization of the new electronic media is the real possibility that millions of children will not have access to these tools at all.

By any measure, the poorest American families have the least access to computer-based electronic media. Well over half of all families with incomes over $50,000 have a computer, compared with less than one-tenth of families with incomes under $20,000.[30] A student in an affluent community is roughly twice as likely as one in a poor community to attend a school with Internet access.[31] As the computers and on-line services are increasingly found in homes, these disparities will only grow. In 1993, only 4 percent of low-income elementary students had computers at home, compared with 51 percent of high-income students. Unequal access will place low-income and minority children at a competitive disadvantage as they progress through school and into occupational pursuits.[32]

These inequities in computer access are rooted in deep social and economic problems of the country and will not be resolved quickly. But as an interim step, communities can make these television and interactive learning technologies more widely available in preschools and schools and also in community centers, after-school programs, recreational programs, public housing projects, libraries, and other community-based organizations.

Some groups are working to close the digital divide by acquiring computers for inner-city schools. California's highly publicized NetDay in February 1996, when thousands of volunteers helped set up network connections at elementary and secondary schools, was one effort to broaden children's access to the Internet. Many other states are now following suit with NetDays of their own. Other groups have opened com-

munity-access centers, where youths and adults alike from inner-city communities can use computers at little or no charge. Most such centers teach young people basic computer techniques, such as keyboard and mouse skills and basic computer applications such as word processing. The Computer Clubhouse of Boston, organized by the Computer Museum in collaboration with the Massachusett's Institute of Technology's Media Laboratory, goes several steps further. This after-school program helps participants from underserved areas become "technologically fluent." In the clubhouse, students work together to design their own computer-based projects with the help of a skilled mentor. The project's ultimate aim is to foster a learning community in which knowledge and ideas are shared. Although the clubhouse serves young people ages ten to sixteen, the concept has reference to elementary-age students as well.[33]

Connecting Homes and Schools. The 1996 Telecommunications Act has made it a matter of national policy that schools receive "affordable" access to telecommunications, as sociologist Paul Starr notes in a recent important article. The FCC will now determine the exact obligations of the telecommunications industry in the subsidy of school connections. Among various solutions to the projected high costs, the commission is exploring whether to set aside spectrum to provide schools wireless connections, which could help to minimize the indirect costs of "retrofitting" school buildings. Schools in low-income communities, says Starr, will almost certainly need additional financing from the states or federal government to shoulder the required investments.[34] The cable, telephone, and television industry concerns must also make these needs a very high priority.

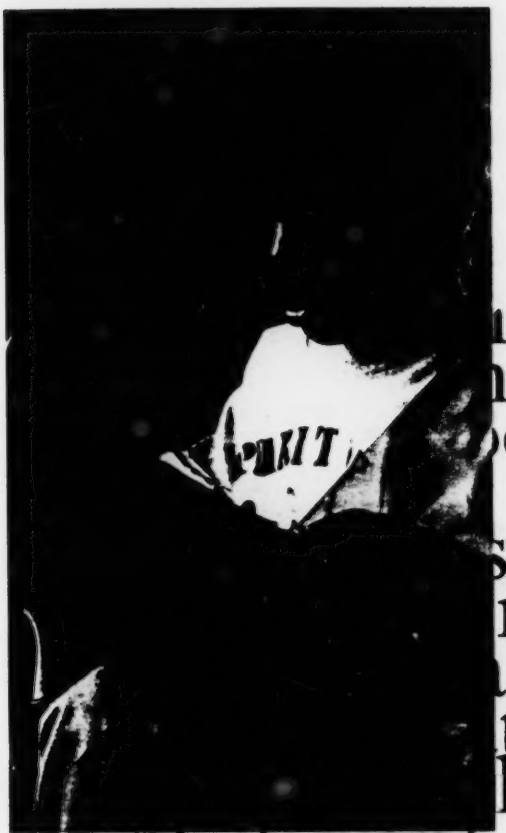
Connectivity is the great promise of today's learning technologies. Using electronic mail and on-line information services, all of the institutions committed to children's learning — parents and community organizations, preschools and elementary schools, and media organizations — can keep in touch, sharing resources and information on an ongoing basis and taking part in collaborative problem solving on behalf of children. But universal connectivity of families and schools is only part of the solution. Low-cost access to high-quality content is the other part. In the future, many valuable sources of information on the Web are likely to be available only for a fee. To Starr, the development of on-line libraries providing free access to work in the public domain and low-cost access to copyrighted material of educational value should be a priority for both public and philanthropic support.[35]

To exploit this powerful resource will require that many Americans outside the schools become seriously involved in creating high-quality electronic sites that can help the teachers in this nation who need and deserve such service.

Professional Development of Teachers. Internet access offers great possibilities for increasing the professionalism of teachers. One can envision a day when any elementary school teacher can routinely refine next week's hands-on science lessons by accessing from home a bulletin board offering carefully compiled advice from experienced teachers who have taught the same material, supplemented by video clips of crucial parts of the lesson being taught by a mentor teacher. By a simple click of a button, the teacher can also choose to converse on-line with a scientist who has volunteered to be available to help answer difficult questions that students may have asked the previous week. And if the teacher needs a better way to teach electricity, he or she can instantly access a database of outstanding curricula that match the national or state education standards and print out model lesson plans along with age-appropriate text for the children to read.

To exploit this powerful resource will require that many Americans outside the schools become seriously involved in creating high-quality electronic sites that can help the teachers in this nation who need and deserve such service. It will also require a new emphasis on facilitating connections to the Internet for teachers in their homes.[36]

Ultimately, the qualities of education that one should care about most are not technological; they are matters of educational philosophy and practice. Experience tells us that electronic media can support and inspire learning and creativity in all children — at home, at school, and in the community — but the institutions and individuals concerned with children's healthy development must engage with media leaders and advertisers to fashion policies and practices that fit into a comprehensive learning strategy that truly enhances children's lives.



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Chapter 6

Putting It All Together

Fast forward once more. Jessie is grown now, with a young family of her own. Like generations of Americans who have come before her, she is willing to work hard to give her children opportunities that she didn't have. She takes part in school activities and she puts something aside each week for piano lessons and after-school programs. And she does her best to create the kind of home where her children can grow into able, exuberant learners.

If the comprehensive learning strategy set forth in this report is realized in coming years, the educational fate of Jessie's young children will not hinge predominantly on their parents' income or educational attainment; the schooling, resources, and support available to them will not depend on where they happen to reside. They will live in a nation that fully acknowledges its stake in the blossoming of every child's capacities and creativity, especially in the crucial age span from three to ten; they will grow up in a land that refuses to forfeit the promise of a single child.

Principal Findings and Conclusions

In *Years of Promise*, the Carnegie Task Force on Learning in the Primary Grades has focused on the core institutional influences that lay the foundation for children's educational success and healthy development between the ages of three and ten: family and community-based organizations, early care and education programs, elementary schools, and the media. Based on our examination of the best available research and practice in all these domains, on more than sixty visits made by task force members to schools and programs, and on our meetings with educators, community leaders, and parents over a two-year period, we are convinced that the opportunities are at hand to ensure that all the nation's children become competent, confident learners. The trajectory of underachievement followed by so many students can be changed. Our principal findings and conclusions are summarized as follows.

First, the majority of American schoolchildren are achieving well below the levels they should be attaining. As many as one-third of American youngsters are entering kindergarten already needing additional support to keep up with their peers. By the time they reach fourth grade, most students are unable to meet reasonable proficiency standards in reading, writing, mathematics, or science. This finding is particularly stark for those growing up in poverty. If they continue along the trajectories set in these early years, today's children of promise will be ill-prepared to meet the difficult challenges of the twenty-first century.

Second, it is entirely feasible to reverse the widespread pattern of educational underachievement among elementary school children. So many of the problems encountered in today's world seem to defy solution — diseases that have no cure; conflicts that resist resolution; disasters that human efforts cannot control. But the problems of schooling documented in this report are *not* beyond solution. Poverty and other circumstances of birth do raise the odds against many children's educational success, but virtually all of America's children can learn and achieve to much higher levels than they are reaching today, given the right combination of challenge, attention, and teaching from families, schools, and communities.

Third, enough is known about effective policies and practices in all the key learning institutions for each to take immediate steps to improve results for children toward the goal of upgrading education for all. Researchers have spent decades documenting the kinds of family interactions, family support activities, early care and education, and elementary school policies and practices that strengthen children's achievement. Each institution acting independently can begin *now* to align its policies and day-to-day practices more closely to the principles of effective practice that have been shown to make a difference for children. The incremental changes brought about by these actions will help to counter the cynicism that has defeated many of the education reform efforts of the late twentieth century.

Fourth, the frontline institutions must reach beyond their traditional isolation from each other and coordinate their efforts so that children's learning and healthy development are reinforced from every side. The discontinuities among the key institutions described in this report call for the creation of comprehensive, continuous services that link families, early care and education, community-based organizations, and schools in order to facilitate children's learning and development. In this time of profound social and economic transition, no single institution can realistically be held solely responsible and accountable for ensuring children's high educational attainment. All of the primary learning institutions need to work together, within and across sectors, to form a circle of responsibility for children.

Fifth, many of the reforms advanced in this report could be accomplished without additional financing, through a reallocation of existing resources from programs that do not work to those of proven value. There will be a need for new funds, however, to expand access to high-quality early care and education programs and to plan and implement a comprehensive learning strategy that meets the needs of all young children.

Achievement, Opportunity, and Coherence for All

To have children is to make a promise — to love and protect them; to pass on to them all the wisdom that we possess; and to give them the means to sustain and augment that wisdom. Teaching is what we do to keep that promise. This premise is rarely articulated, but it underlies not only our private actions but the broad acceptance of education as a national enterprise and a public responsibility.

We must now reaffirm the public and private acceptance of responsibility for all our children in the years of promise. To ensure that children thrive today and succeed in tomorrow's world, our nation must make a threefold commitment.

First, we must commit ourselves to *raising the achievement levels* for each and every child, beginning in early childhood within the family and continuing through preschool and elementary schools. A commitment to achievement requires parents, educators, service providers, and policymakers to articulate their goals for children in the first decade of life, to institute and sustain policies and practices that have been shown to accomplish those goals, and to root out those that are ineffective. This means setting higher standards for what children should know and be able to do and doing whatever it takes to see that they meet the standards.

Second, we must renew our commitment to ensuring that all children have *equal opportunity* to benefit from a high-quality education. A commitment to opportunity means rejecting explicitly and forcefully the false notion that some groups of children have preset limits on what they can learn or achieve and accepting another idea — that all children can learn and meet high expectations for their educational performance. It means ensuring that all children throughout the years of promise have the opportunity to benefit from the full range of effective instructional and learning strategies, including access to new educational technologies, that two decades of educational research have produced. It means acknowledging and responding to the diversity of American children and families in educational settings and curricula. Finally, it means reducing the dramatic disparities in public school funding across states and districts.

We must now reaffirm the public and private acceptance of responsibility for all our children in the years of promise. To ensure that children thrive today and succeed in tomorrow's world, our nation must make a threefold commitment.

Third, we must commit ourselves to ensuring that all children have *a coherent educational experience*, from learning in the family and community, to learning in preschool, to learning in schools. This means, in particular, forging stronger home/school partnerships;

linking family support efforts with educational programs for children; smoothing the transition between preschool and elementary school; and tying schools more closely to the many settings where children spend out-of-school time. Not only will such linkages make delivery systems more efficient; they will create coherence in the way that children experience the world. As things stand, children too often have a Humpty Dumpty view, based on fractured experience in a large number of settings where they are only partly known.

If this framework is accepted and the nation makes these commitments, then children will have the sure knowledge that wherever they go adults and institutions are conspiring to ensure their success; that wherever they turn they will find a consistent set of high expectations and the resources they need to meet them; that whenever they lose their way the people and institutions responsible for their care and education will act quickly to help them get back on track.

Historically, services for children, including education, have suffered from the false notion that different kinds of competency — intellectual, social, emotional, physical — exist in isolation and that in the melody of childhood these developmental notes must be played one at a time. Today there is greater understanding that they are a chord and must be sounded simultaneously. Learning cannot be separated from the contexts in which it is inspired and extended; a curriculum cannot be detached from the human relationships within which it is taught; the knowledge of the world that comes about in the classroom cannot be split off from the ways of knowing that evolve at home, in the park, in the neighborhood, or in front of the TV set. A commitment to coherence means ensuring that, to the greatest extent possible, the full range of children's developmental and learning needs will be considered, planned for, and met in all of the settings through which children move in the course of a single day and in all of the learning institutions through which they progress during the age span from three to ten.

If this framework is accepted and the nation makes these commitments, then children will have the sure knowledge that wherever they go adults and institutions are conspiring to ensure their success; that wherever they turn they will find a consistent set of high expectations and the resources they need to meet them; that whenever they lose their way the people and institutions responsible for their care and education will act quickly to help them get back on track.

Task Force Recommendations

In this report, the task force highlights many measures and exemplary programs that have been shown to improve children's learning and healthy development in the years from three to ten and that conform to the concept of a comprehensive learning strategy. These elements can be encompassed within a five-point program, as follows.

Promote Children's Learning in Families and Communities: Children's learning in the years from three to ten depends to a great extent on their mothers' and fathers' (or guardians') parenting skills, their links with community organizations, and their access to information and support. The task force recommends that:

- States and communities should make effective parent education and family support programs that promote learning and child development available to every interested family with preschool or primary grade children. For families with high levels of stress and economic hardship, these programs are most effective if they are embedded in a coordinated array of other services, including health care, literacy classes, and job training. The specific mix of services will vary from place to place.

- Early care and education programs, elementary schools, and community-based organizations should reach out aggressively to involve parents in their programs and services to children. Parent involvement should extend beyond traditional activities, such as running bake sales and chaperoning field trips, to participation in decision making and direct efforts to boost children's achievement.

- Communities need to expand and improve their out-of-school programs, especially after-school programs that care for the children of working parents, so that their activities are linked to individual children's curricula in school and preschool and so that programs are accessible to those who have most need of them: low-income children, children with disabilities, and children whose first language is not English. Quality standards for such programs should be established and enforced.

Expand High-Quality Early Learning Opportunities. A national commitment to raising student achievement cannot begin at age five or six; by then, millions of children have spent years moving among substandard settings that can delay or impede their healthy development. Because remediation is so costly, taxpayers' investments in elementary schools lose value when children come to them from inadequate or detrimental early care and education programs. To reverse the pattern of underachievement, the task force recommends that:

- There should be a national commitment for expanded publicly supported early care and education programs for children ages three to five, including federally funded Head Start and state prekindergarten and child care programs. The United States should have a rich mix of high-quality public and private programs, supported by a strong infrastructure of coordinated national, state, and local mechanisms for assuring adequate financing and staffed by well-qualified, highly trained caregivers.

- Sustaining the enhanced quality of early learning opportunities will require the creation and consistent enforcement of higher standards for facilities, staff qualifications, and overall program performance. Development of consistent standards of quality for child care and preschool programs should draw on the performance standards developed for the federally funded Head Start program and model state prekindergarten programs and by professional associations.

Create Effective Elementary Schools and School Systems. Just as elementary schools cannot fully succeed if early care and education programs are of low quality and poorly financed, high-quality preschool programs cannot produce lasting benefits if they are followed by poor elementary school experiences. Many elementary schools are making concerted efforts to fulfill their students' promise, but the majority are failing to educate them to the higher standards they must meet for success in the next century. The task force, therefore, recommends that:

- States should play a leading role in developing or adopting meaningful *content* standards that specify what each child should know and be able to do across *all* subject areas. Rigorous *performance* standards should be set in math, reading, writing, and science for the end of the fourth grade. Local teachers, parents, and community members should play a role in implementing state standards for the elementary schools in their district.

- Educators should apply the same standards of academic performance to virtually all students and use every available method to ensure that each student succeeds in meeting the requirements. Language-minority children should be offered an equal opportunity to learn the same challenging content and high-level skills that are expected of students who are fully proficient in English. For the small proportion of children who may not be able to meet all of the standards due to severe disabilities that affect learning, individual education plans should set reasonable goals toward meeting the highest standards possible.

- States and school districts should invest adequate money, time, and support in the professional development of staff and the organizational development of schools to enable them to strengthen teaching and learning, manage the process of school improvement, and raise achievement. Professional development should be closely related to the school's strategy for meeting the standards and should encompass the use of effective instructional practices and well-evaluated curricula, materials, and assessment methods as well as the integration of educational technologies into the life of the classroom.

- Elementary schools and districts need to monitor continually each child's progress toward the fourth-grade standards, beginning in kindergarten and the first grade, and intervene with additional time and varied instruction as soon as a child falls behind. School districts should monitor schools, and states should monitor districts, to provide additional support and intervention when children are not progressing toward the goals.

Promote High-Quality Children's Television and Access to Other Electronic Media. Television and emerging interactive technologies offer a powerful, underutilized opportunity to motivate children and help them meet higher learning standards. Both the quality and the amount of educational programming should be increased, and access to the new learning technologies should be extended more equitably. The task force recommends that:

- Media and business leaders should provide high-quality learning opportunities in every electronic medium, based on high standards for children's learning.

- The President, Congress, media executives, and business leaders should vigorously enforce the Children's Television Act of 1990, ensuring that every community develops standards for television licensure renewal that will help increase the quantity and quality of educational programming. Government and business leaders should create financial and professional incentives for the development of high-quality educational uses for the new technologies.

- Communities should engage local businesses as partners in efforts to create broad access to new technologies — in community-based organizations, libraries and other cultural institutions, housing projects, and other public sites — to help narrow the "digital divide" between low-income children and their more affluent peers.

Link the Key Learning Institutions into a Comprehensive, Coordinated Education System. Strengthening coordination and communication among the vital learning institutions — parents, community organizations, preschools, and elementary schools — can reinforce children's learning, identify and solve problems early, and ensure efficient use of resources. The task force recommends that:

- Each of the key learning institutions should organize and expand initiatives that create continuity in children's learning experiences. For instance, preschool and elementary school teachers and administrators should regularly communicate about the educational needs of children through community-based professional development opportunities. Elementary schools should form closer linkages with community-based programs for children, especially after-school and summer programs, and make their educational resources more widely available to them. All programs should make concerted efforts to involve parents in their planning activities.

- State and local leadership councils or committees should study the findings of this report and create strategic plans to address the learning and developmental needs of children in the age span from three to ten. These councils should include business leaders, parents, religious leaders, service providers, members of the media, and representative of the appropriate public agencies.

Making Rational Use of Resources

In making its recommendations for a comprehensive learning strategy, the task force recognizes the need for key learning institutions to make far better use of existing resources. Taxpayers have the right to demand that new monies be allocated to education only when there is abundant evidence that they are needed, that the efforts they are funding cannot be supported with existing resources, and that they will accomplish goals that most Americans value. They have the right to expect that educational dollars will be rationally allocated and wisely invested and that better use will be made of nonmonetary resources, including volunteers, peer tutoring programs, and community institutions like museums and libraries.

But the nation must be willing to commit to greatly expanded public financing and enhanced quality of early care and education programs, until the parents of all three-, four-, and five-year-olds have the option of enrolling their children in programs that truly meet children's learning and developmental needs. This is an immense undertaking that should be phased in over the next decade, beginning with the preschoolers most in need, expanding gradually to all four-year-olds, and then encompassing all three-year-olds.

The comprehensive learning strategy recommended by this task force is ambitious but no more so than a host of other "impossible" tasks that have been achieved in this century.

Public funding for elementary education vastly exceeds public funding for early care and education. Yet it is during the preschool years that children make the developmental leaps that form the basis of later achievement. The gap is understandable from a historical perspective, but from an educational standpoint it makes no sense.

At the same time, elementary school funding shows extraordinary disparities among states and even within the same state. These gross disparities subvert the nation's longstanding commitment to equal educational opportunity — that is, to giving Americans of all ages who are willing to work hard a fair shot at success and upward mobility. Moreover, millions of dollars are now spent by elementary schools on programs and practices that are unlikely to boost achievement when more effective approaches are available.

The task force is not putting forward a detailed plan for overhauling educational finance. This process must take place at state and local levels to reflect the fact that each state and district has a different mix of assets as well as different educational needs and priorities. Their funding decisions can be guided, however, by a common set of principles designed to achieve more rational investments in children's learning.

Redefining Leadership

The comprehensive learning strategy recommended by this task force is ambitious, but no more so than a host of other "impossible" tasks that have been achieved in this century. Only eighty years ago women in this

country did not have the right to vote; fifty years ago discrimination on the basis of race was legal practice in many parts of the nation; thirty years ago it was permissible by law to bar people with disabilities from education and employment. Universal (voluntary) preschool education for three- and four-year-olds may seem visionary today, but only a short time ago universal kindergarten for five-year-olds was considered improbable, and now it is fact.

Many actions need to be taken at many levels to reverse the pattern of underachievement. But what is required above all is the conviction that a dramatic turnaround in children's learning cannot take place unless Americans work together to build the sturdy institutions needed to assure achievement, opportunity, and coherence.

Strong leadership may emerge in the process. Leadership means policymakers in every sector of American life taking responsibility for children's learning. But leadership also means three or four teachers deciding together to find a better way to help their first graders learn to read; it means a team of corporate executives brainstorming about out how to support school improvement efforts in their public school district; it means neighbors getting together — not once or twice, but throughout the year — to keep track of progress at the local elementary school and to support efforts to strengthen teaching and learning. And finally, leadership means following through — sustaining and linking all of these efforts.

The federal government has a role to play in gauging educational needs; stimulating debate on ways to meet those needs; formulating and implementing broad educational initiatives that serve and protect the national interest; and supporting the research, development, and technical assistance that are crucial to the success of state and local efforts. States bear a greater burden of responsibility for planning, funding, and delivering educational services, and must play a leading role in carrying out the comprehensive strategy outlined in this report. Virtually all of the recommendations offered by the task force require deliberation and action by governors, state legislatures, and state education departments.

Ultimately, the success or failure of this strategy to raise achievement will depend on the resolve and initiative of Americans in communities across the nation. At present, most communities have no organized groups devoted to coordinating the efforts of all of the people and institutions that help children learn. There is no regular body that keeps a steady eye on the big picture, sets goals, or takes responsibility for results. There is no single model for collaboration.

Community Councils

In many places, children's councils have come into being over the last decade, reflecting a new understanding that change cannot take place unless there is a better flow of information between community members and policymakers —- bottom up and top down. In some cases, statewide initiatives, such as Ohio Families and Children First, have set up county councils designed to integrate services for children. Statewide programs like Smart Start in North Carolina

set clear goals and benchmarks for results but give local councils and communities flexibility in using resources to upgrade quality. In other cases, local councils take shape when an existing organization or agency, such as a mayor's office, a youth-serving agency, a parent–teacher association, a family support organization, or a community development agency, stretches its mission. In some communities, a public–private partnership, like United Way Success by Six, may focus on services for children. In other places, a new organization may take shape. In Philadelphia, for example, Children Achieving came into being as a broad-based effort to connect school improvement to reform in the human services.

Every one of these children can learn to levels that surpass any expectations that we might have for them. If we as a nation commit ourselves to their success, if we keep their promise, these children will astonish us.

For the most part, children's councils have been less active in the sphere of public education. These groups could play a leading role in carrying out the comprehensive learning strategy proposed in this report — seeking ways to expand the availability and quality of early care and education as well as family support and parent education; convening parents and community members to discuss educational standards and school improvement; seeking ways to raise the quality and quantity of educational programming on television and in other electronic formats; and creating or reinforcing linkages among all of others' efforts.

In counties or communities where children's councils do not exist, leadership on behalf of children may take many forms. The key is for committed individuals across the nation to engage community members in the process of setting an agenda for all children. It is time for them to advance that agenda, moving from the act of imagination to the art of implementation. They need to win the support of public and private institutions in every sector of American life — businesses, philanthropies, human service providers, cultural and recreational institutions, colleges and universities, science-rich institutions, and religious organizations.

Keeping the Promise

We end this report where it began — in the playground. From a green slatted bench under an oak tree, we can sit for a time, watching the children play. Their courage on the jungle gym is impressive; the grace of their gait as they race from swing to slide is wonderful to see. What is less obvious to the casual observer is their growing intellectual prowess, social agility, and emotional stamina. By age three or four, children have the ability to make daring cognitive leaps, to negotiate the slippery slopes of peer relationships, and to manage the emotional ups and downs that are part of everyday life. If all of us could see their agile minds as easily as we observe their physical agility, perhaps more Americans would believe that every one of these children can learn to levels that surpass any expectations that we might have for them. If we as a nation commit ourselves to their success, if we keep their promise, these children will astonish us.

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APPENDIXES

Appendix A

CONSULTANTS TO THE TASK FORCE ON LEARNING IN THE PRIMARY GRADES

Carol A. Barnes
Research Associate
School of Education and the Institute for Public Policy Studies
University of Michigan
Ann Arbor, Michigan

Claire Brindis
Associate Adjunct Professor
Center for Reproductive Health Policy Research
Institute for Health Policy Studies
University of California at San Francisco
San Francisco, California

David K. Cohen
John Dewey Collegiate Professor
School of Education
University of Michigan
Ann Arbor, Michigan

Allison Sidle Fuligni
Research Associate
Families and Work Institute
New York, New York

Ellen Galinsky
Co-President
Families and Work Institute
New York, New York

Heather Lewis
Director
Center for Collaborative Education
New York, New York

Beth M. Miller
Research Associate
School-Age Child Care Project
Center for Research on Women
Wellesley College
Wellesley, Massachusetts

David Ramirez
Executive Director
Center for Language Minority Education and Research
California State University at Long Beach
Long Beach, California

Daniel Resnick
Professor of History and Director
Program in Educational Policy
Center for History and Policy
College of Humanities and Social Science
Carnegie Mellon University
Pittsburgh, Pennsylvania

Sam Stringfield
Principal Research Scientist
Center for Social Organization of Schools
The Johns Hopkins University
Baltimore, Maryland

Anne Wheelock
Center for Innovation in Urban Education
Northeastern University
Boston, Massachusetts

Appendix B

Papers Commissioned by the Task Force on Learning in the Primary Grades

Claire Brindis, "The Health Needs of Children in Primary Grades: The Role of Schools and Communities," May 1995.

David K. Cohen and Carol A. Barnes, "High Standards, All Children, and Learning: Notes toward the History of an Idea," January 1995.

Bernie Devlin, Stephen E. Fienberg, Kathryn Roeder, and Daniel Resnick, "IQ, Race and Public Policy: An Analysis of *The Bell Curve*," January 1995.

Douglas Fuchs, "Abolitionists Versus Conservationists: Where to Educate Special-Needs Children and Other Issues (According to a Conservationist)," June 1995.

Allison Sidle Fuligni and Ellen Galinsky, "Family Factors Influencing School Readiness and School Success: Summary of Research Findings," January 1995.

Nettie Legters and Robert E. Slavin, "Elementary Students at Risk: A Status Report," April 1994. (This is a revision of a paper commissioned by Carnegie Corporation of New York as a background paper for a meeting on elementary school reform, June 1–2, 1992.)

Beth M. Miller, "Out of School Time: Effects on Learning in the Primary Grades — Summary of Major Findings and Recommendations," December 1994.

Frederic A. Mosher, "Goals 2000 and the Task Force," September 1994.

Frederic A. Mosher, "Standards for All Primary Students," January 1995.

Allan R. Odden, "Trends and Issues in American School Finance," December 1994.

Susan V. Smith, "Nature and Scope of Health Problems of Children from Three to Ten Years of Age and the Promotion of Healthy Life-Styles," May 1996.

Anne Wheelock, "School Rewards, School Accountability, and School Reform," May 1995.

Appendix C

Presenters at Meetings of the Task Force on Learning in the Primary Grades

February 9–10, 1995
Washington, D.C.

Carol A. Barnes
Research Associate
School of Education and the Institute for Public Policy Studies
University of Michigan
Ann Arbor, Michigan

Sue Bredekamp
Director of Professional Development and Accreditation
National Association for the Education of Young Children
Washington, D.C.

David K. Cohen
John Dewey Collegiate Professor
School of Education
University of Michigan
Ann Arbor, Michigan

Beth M. Miller
Research Associate
School-Age Child Care Project
Center for Research on Women
Wellesley College
Wellesley, Massachusetts

June 27–28, 1995
New York, New York

Anthony Bryk
Director
Center for School Improvement
University of Chicago
Chicago, Illinois

Christel Brellochs
Director
School Health Policy Initiative
Department of Pediatrics
Montefiore Medical Center
New York, New York

David K. Cohen
John Dewey Collegiate Professor
School of Education
University of Michigan
Ann Arbor, Michigan

Lawrence J. Dolan
Research Scientist
Center for Social Organization of Schools
The Johns Hopkins University
Baltimore, Maryland

Edward Joyner
Director
Comer Project for Change in Education
School Development Program
Yale University
New Haven, Connecticut

Helen F. Ladd
Visiting Fellow
The Brookings Institution
Washington, D.C.

Katherine Lobach, M.D.
Director
Child Health Clinic of New York City
New York City Health and Hospitals Corporation
New York, New York

Robert Sexton
Executive Director
Prichard Committee for Academic Excellence
Lexington, Kentucky

Sam Stringfield
Principal Research Scientist
Center for Social Organization of Schools
The Johns Hopkins University
Baltimore, Maryland

Anne Wheelock
Consultant
Jamaica Plain, Massachusetts

November 1–2, 1995
Washington, D.C.

Keynote speaker
Ernest L. Boyer
President
The Carnegie Foundation for the Advancement of Teaching
Princeton, New Jersey

Appendix D

Participants, "Preschool Finance" Meeting
April 11, 1996

Gina Adams
Child Care Program Associate
Children's Defense Fund
Washington, D.C.

Richard N. Brandon
Executive Director
Human Services Policy Center
University of Washington
Seattle, Washington

Nancy Cohen
Research Associate
Bush Center in Child Development and Social Policy
Yale University
New Haven, Connecticut

Mark Friedman
Consultant
Baltimore, Maryland

Martin Gerry
Director
Kansas University Policy Research Center
University of Kansas
Lawrence, Kansas

Deanna Gomby
Program Officer
Center for the Future of Children
Los Altos, California

Cheryl Hayes
Executive Director
The Finance Project
Washington, D.C.

Karen Hill-Scott
Director of Development and Public Policy
Crystal Stairs, Inc.
Los Angeles, California

Sharon Lynn Kagan*
Senior Associate
Bush Center in Child Development and Social Policy
Yale University
New Haven, Connecticut

Sheila Kamerman
Professor, Social Policy and Planning
School of Social Work
Columbia University
New York, New York

Allan R. Odden*
Professor and Codirector
Consortium for Policy Research in Education
University of Wisconsin
Madison, Wisconsin

Cheryl Polk
Director
Early Childhood Program
Miriam and Peter Haas Fund
San Francisco, California

Louise Stoney
Policy Consultant
Stoney Associates
Albany, New York

Barbara Wolfe
Professor and Director
Institute for Research on Poverty
University of Wisconsin at Madison
Madison, Wisconsin

* Member of the Carnegie Task Force on Learning in the Primary Grades

Appendix E

Public Hearings Held by the Task Force on Learning in the Primary Grades

Los Angeles, California
October 17, 1995

Invited speakers:

Helen Bernstein
President
United Teachers of Los Angeles
Los Angeles, California

Sandy Clifton
Assistant Superintendent of Educational Services
Redondo Unified School District
Redondo Beach, California

Peggy Funkhouser
President
Los Angeles Educational Partnership
Los Angeles, California

Greta Pruitt
Director
Los Angeles Learning Centers
Los Angeles Educational Partnership
Los Angeles, California

Becki Robinson
Elementary Vice President
United Teachers of Los Angeles
Los Angeles, California

Alice Walker-Duff
Executive Director
Crystal Stairs, Inc.
Los Angeles, California

Robert Wycoft
Chairman
LEARN
and President Emeritus
ARCO
Los Angeles, California

Washington, D.C.
November 1, 1995

Invited speakers:

Bobbi Blok
Executive Director
Washington Child Development Council
Washington, D.C.

Frank Bolden
President
Council of School Officers
Washington, D.C.

Jackie Goodloe
Teacher
Burville Elementary School
Washington, D.C.

Dennis Johnson
Principal
Terrell Elementary School
Washington, D.C.

Glenda Partee
Codirector
American Youth Policy Forum
Washington, D.C.

Janet Spencer
Recording Secretary
Washington Teachers Union
Washington, D.C.

Appendix F

Task Force on Learning in the Primary Grades
Executive Director's Meeting with the Golden Apple Fellows
at the Golden Apple Foundation for Excellence in Teaching
Chicago, Illinois, March 18, 1996

Ana Bensinger
Inter-American Magnet School

Penny Brehman
Golden Apple Foundation for Excellence in Teaching

Rosa Brown
McDade Classical School

Adela Coronado-Greeley*
Inter-American Magnet School

Lillian Degand
Peterson Elementary School

Brigid Gerace
Franklin Fine Arts Magnet School

Lois La Galle
Inter-American Magnet School

Paddy O'Reilly
Whittier Elementary School

* Member of the Carnegie Task Force on Learning in the Primary Grades.

Appendix G

Sites Visited by Members and/or Staff of the Task Force on Learning in the Primary Grades

May 6–8, 1994
Chicago, Illinois
Beethoven School
Inter-American Magnet School
Washington Irving School

July 26, 1994
San Fernando, California
Vaughn Next Century Learning Center

July 26, 1994
Wilmington, California
Hawaiian Avenue School

July 27, 1994
Culver City, California
El Marino Language School

December 5–6, 1994
Dallas, Texas
Bonham Elementary School
Julia C. Frazier School
Robert E. Lee Elementary School
Stonewall Jackson School
William Anderson School
William B. Travis School

December 7, 1994
Fort Worth, Texas
Briscoe Elementary School

December 8, 1994
El Paso, Texas
Ysleta Elementary School
Alamo Elementary School

December 22, 1994
Roxbury, Massachusetts
Rafael Hernandez School

February 28–March 1, 1995
Miami, Florida
Drew Elementary School
Poinciana Park Elementary School
Southpoint School

March 28, 1995
San Francisco, California
McKinley School
Spring Valley School
Yick Wo School

March 29, 1995
Modesto, California
El Vista School

March 30, 1995
Merced, California
John C. Fremont Charter School

April 20, 1995
Decatur, Georgia
College Heights Elementary School

April 20, 1995
Madison, Georgia
Morgan County Primary School

April 21, 1995
Carrollton, Georgia
Carrollton Elementary School

April 21, 1995
Atlanta, Georgia
Mary Lin Elementary School

May 1, 1995
Long Island City, New York
Public School 150

May 1, 1995
New York, New York
Public School 3

May 2, 1995
New York, New York
Central Park East Elementary School 1
Public School 126

May 12, 1995
Brooklyn, New York
Public School 329, the Surfside School

May 15–16, 1995
Chicago, Illinois
Anton Dvorak Specialty Academy
Beethoven School (revisited)
Edmund Burke Elementary School
Inter-American Magnet School (revisited)
Washington Irving School (revisited)

June 1, 1995
Boston, Massachusetts
Mather School
Maurice Tobin School

June 2, 1995
Boston, Massachusetts
Sarah Greenwood School

June 2, 1995
Cambridge, Massachusetts
Graham & Parks Alternative Public School

October 2, 1995
Lexington Park, Maryland
Green Holly School

October 16–17, 1995
Los Angeles, California
Delores Mission Women's Cooperative and Child Care Center
Euclid Avenue School
SEEDS E.E.S. Preschool at UCLA
Sixty-eighth Street Elementary School Afterschool Program
Weigand Avenue School Afterschool Program

October 17, 1995
Santa Monica, California
Edison Language Academy

October 18, 1995
Los Angeles, California
Marcus Garvey School

October 31–November 1, 1995
Washington, D.C.
Abram Simon Elementary School
Barbara Chambers Cultural Center Afterschool Program
Garfield Elementary School
Richardson Elementary School
YMCA First Steps Child Development Center

November 29, 1995
Murfreesboro, Tennessee
Murfreesboro School District Afterschool Program

November 30, 1995
Nashville, Tennessee
Berry School
Charlotte Park Elementary School
Gower Elementary School

February 5, 1996
Yonkers, New York
Eugenio Hostos Micro Society School

February 6, 1996
Long Island City, New York
Public School 150 (revisited)

February 6, 1996
Brooklyn, New York
Public School 3, the Bedford Village School

February 6, 1996
New York, New York
Public School 126 (revisited)

March 6–7, 1996
Baltimore, Maryland
Barclay School
Dr. Bernard Harris Elementary School

April 22, 1996
Lexington Park, Maryland
Green Holly School (revisited)

Appendix H

Biographies of Members and Senior Staff of the Task Force on Learning in the Primary Grades

Shirley M. Malcom, cochair of the task force, is head of the Directorate for Education and Human Resources Programs of the American Association for the Advancement of Science. The directorate is responsible for the association's efforts in education and its activities for groups that are underrepresented in science and engineering, as well as for the promotion of public understanding of science and technology. Dr. Malcom, an ecologist by training, has been a high school science teacher and a university faculty member. She has chaired a number of national committees addressing K–12 education reform and access to scientific and technical education, careers, and literacy. Dr. Malcom is a member of the National Science Board, the policymaking body of the National Science Foundation, and of the President's Committee of Advisors on Science and Technology. She is a trustee of Carnegie Corporation of New York and a fellow of the American Academy of Arts and Sciences.

Admiral James D. Watkins (U.S. Navy, Retired), cochair of the task force, retired from the Navy in 1986 after completing four years as Chief of Naval Operations. A 1949 graduate of the U.S. Naval Academy, he was a naval officer for thirty-seven years. After his retirement, he served as chairman of the Presidential Commission on the AIDS epidemic, which reported its findings to President Reagan in 1988. In 1989 President Bush appointed him Secretary of Energy, a post he held until 1993. In 1994, Admiral Watkins helped establish the Consortium for Oceanographic Research and Education (CORE); he has been president of the consortium since its foundation. Admiral Watkins has worked throughout his career to help improve the education of the nation's youth, particularly in mathematics and science. He contributed to *Turning Points: Preparing American Youth for the 21st Century*, a 1989 report of Carnegie Corporation's Council on Adolescent Development, of which he was a member. He was also a member of the task force that produced *Starting Points: Meeting the Needs of Our Youngest Children*, a 1994 Carnegie report. He is a trustee of Carnegie Corporation of New York.

Bruce M. Alberts, president of the National Academy of Sciences in Washington, D.C., is known for his work both in biochemistry and molecular biology, in particular for his extensive study of the protein complexes that allow chromosomes to be replicated. Alberts graduated from Harvard College and earned a doctorate from Harvard University in 1965. He joined the faculty of Princeton University in 1966 and after ten years moved to the department of biochemistry and biophysics at the University of California, San Francisco, where he became chair. He is the principal author of *The Molecular Biology of the Cell*, the leading textbook of its kind. Mr. Alberts has long been committed to the improvement of science education, dedicating much of his time to educational projects such as City Science, a program that seeks to improve science teaching in San Francisco elementary schools.

Anthony J. Alvarado has been superintendent of Community School District Two in New York City since July 1987. As chief executive officer of the district, he is responsible for the education of more than 21,000 students in more than forty elementary and middle schools and the administration of an $84 million budget. During his tenure, the district has improved student performance, increased enrollment, created fifteen new schools, and obtained more than $11 million in federal magnet grants. Mr. Alvarado has more than thirty years of experience in education, having been a classroom teacher, principal, superintendent, and chancellor in the New York City public schools. As chancellor (1983–1984), he instituted full-day kindergarten programs and fostered the involvement of business in the schools. From 1984 to 1987, he was director of the Consortium for Worker Literacy, which provides adult basic education and skills training to more than 3,500 union members and their families. Mr. Alvarado serves on several boards, including those of the Consortium for Policy Research in Education, the Fund for New York City Public Education, and the Community Service Society. He served on the presidential transition committee for the U.S. Department of Education (1992) and on the educational panel advising the judge in the Philadelphia desegregation case (1994). He has taught at City College of New York, Long Island University, Pace University, Hunter College, and Teachers College, Columbia University.

Richard I. Beattie is the chairman of the executive committee of Simpson Thacher & Bartlett, where he specializes in mergers and acquisitions, leveraged buyouts, and corporate law and finance. He has been with the firm since 1968, when he graduated from the University of Pennsylvania Law School. Mr. Beattie is also chairman of the board of the Fund for New York City Public Education, a not-for-profit organization that develops and

implements programs to effect systemwide improvements in public education in New York City. He is also a member of the board of directors of Memorial Sloan-Kettering Hospital, WNET/Channel Thirteen, the National Women's Law Center, and the America–Israel Friendship League, as well as a member of the Council on Foreign Relations. Mr. Beattie is President Clinton's Emissary for Cyprus. During the Carter administration, he served as general counsel of the Department of Health, Education, and Welfare, and in 1960, as director of the transition and counsel to the secretary, he was in charge of organizing the U.S. Department of Education. After graduating from Dartmouth College in 1961, he served four years in the Marine Corps as a jet pilot.

Cynthia G. Brown is director of the Resource Center on Educational Equity of the Council of Chief State School Officers, a position she has held since 1986. The center provides services designed to achieve equity and high-quality education for minorities, women, and girls and for disabled, limited-English-proficient, and low-income students. Center staff members carry out research and policy formulation, develop reports and other materials, operate grants and other action programs, provide technical assistance to state education agencies, hold working conferences, and monitor federal and state civil rights and education programs focused on disadvantaged students. In 1992–1993, the center housed and managed the independent Commission on Chapter 1. Ms. Brown has spent more than twenty-five years working on educational equity and quality and civil rights issues. She served as principal deputy of HEW's Office for Civil Rights during the Carter administration, and in 1980 she became first assistant secretary for civil rights in the U.S. Department of Education. She is the author of *Twenty Years On: New Federal and State Roles to Achieve Equity in Education* (1987).

John L. Clendenin is chairman of the board and chief executive officer of BellSouth, the largest of the regional Bell telecommunications companies and one of the twenty-five largest U.S. public companies. Mr. Clendenin began his telephone career with the Illinois Bell Telephone Company, subsequently moving to the Pacific Northwest Bell Telephone Company in Seattle and to the American Telephone and Telegraph Company in New York. He was elected president of Southern Bell in April 1981, and he became chief executive officer of BellSouth on January 1, 1984. Mr. Clendenin is a member of several corporate boards, including those of Providian Corporation, the Kroger Company, Coca-Cola Enterprises Inc., Springs Industries, and the Wachovia Corporation. He is a past chairman of the U.S. Chamber of Commerce and the National Alliance of Business and is the past national president of the Boy Scouts of America. He is a member of the board of governors of the American Red Cross and chairman of the National Junior Achievement board. Clendenin has served as a board member and officer of a number of other civic, educational, and cultural organizations. A 1955 graduate of Northwestern University in Evanston, Illinois, Mr. Clendenin served as a pilot in the U.S. Air Force Strategic Air Command.

James P. Comer, M.D., is the Maurice Falk Professor of Child Psychiatry at the Yale University Child Study Center and associate dean of the Yale University School of Medicine. He is also the director of the Yale Child Study Center School Development Program. Dr. Comer has written four books, more than thirty-five chapters, and more than a hundred professional articles; between 1978 and 1993, he wrote a monthly article for *Parents Magazine*, and he continues as a contributing editor. His pioneering work in school restructuring has been featured in numerous newspapers, magazines, and television reports. He is a cofounder and past president of the Black Psychiatrists of America. He was a consultant to Children's Television Workshop and has been a consultant, committee member, advisory board member, and trustee to numerous local and national organizations serving children. He has been named the John & Mary Markle Scholar in Academic Medicine and has received the Rockefeller Public Service Award, the Harold W. McGraw, Jr., Prize in Education, the Charles A. Dana Award for Pioneering Achievement in Education, and many other awards and honors, including more than thirty-five honorary degrees.

Adela Coronado-Greeley, the 1994 Illinois Teacher of the Year, is cofounder of Inter-American Magnet School, the Midwest's first two-way bilingual-immersion public school. From 1989 to 1990, she was a member of the seven-person Chicago Public School Board of Trustees, whose responsibility it was to implement citywide school reform. A long-time educational activist and advocate for bilingual education, Mrs. Coronado-Greeley has received many awards and honors for her creative and dynamic teaching style and her dedication to children. Her goal, and that of the Inter-American Magnet School, is to have children from diverse language and cultural backgrounds respect and appreciate one another's differences, learn from one another, and excel academically.

Ernesto Cortes, Jr., is the director of the Texas Interfaith Education Fund; he is also the Southwest regional director of the Industrial Areas Foundation (IAF). Mr. Cortés is a graduate of Texas A&M University. In 1974 Mr. Cortés founded Communities Organized for Public Service (COPS), a broad-based grassroots organization of San Antonio's west and south side communities. He went on to found a network of similar organizations throughout Texas, as well as in New Mexico, Arizona, Nebraska, and Louisiana. The MacArthur Foundation recognized Mr. Cortés for his accomplishments in the field of community organizing with a fellowship in 1984. The successful efforts of the Southwest IAF Network and its support organization, the Texas Interfaith Education Fund, have been recognized and funded by foundations such as Rockefeller, Ford, and the Pew Charitable Trusts.

Linda Darling-Hammond is William F. Russell Professor in Curriculum and Teaching at Teachers College, Columbia University, where she is also codirector of the National Center for Restructuring Education, Schools, and Teaching (NCREST). She is executive director of the National Commission on Teaching and America's Future. She is the author or editor of six books, including *Professional Development Schools: Schools for Developing a Profession*, *A License to Teach: Building a Profession for 21st Century Schools*, and *Authentic Assessment in Action*, and she has written more than 150 journal articles, chapters, and monographs on educational policy and practice. Dr. Darling-Hammond, a member of the National Academy of Education, has served on many national advisory boards, including the National Research Council's Panel on the Future of Educational Research and the White House Advisory Panel's Resource Group for the National Education Goals. Dr. Darling-Hammond is chair of both New York State's Council on Curriculum and Assessment and the Model Standards Committee of the Interstate New Teacher Assessment and Support Consortium. She began her career as a public school teacher. Before joining the Teachers College faculty in 1989, she was director of the RAND Corporation's Education and Human Resources Program.

Douglas Fuchs is a professor in the department of special education at Peabody College of Vanderbilt University and codirector of the Kennedy Center's Institute on Education and Learning. He received his Ph.D. in educational psychology from the University of Minnesota. He has taught first graders with serious emotional disturbance in Baltimore, taught in a regular fourth-grade classroom in Pennsylvania, and served as a school psychologist in the Minneapolis public schools. Dr. Fuchs has served as principal investigator on projects that have investigated teacher assistance teams, peer-assisted learning strategies, curriculum-based measurement, and methods for reintegrating students with disabilities into mainstream settings; all these projects were conducted in the public schools. Currently, he chairs the Council for Exceptional Children's Task Force on Special Education Effectiveness and is an advisor on inclusion to the National Conference of State Legislatures. The author of more than 120 articles in a variety of journals, he is co-editor of the *Journal of Special Education* and serves on the editorial boards of seven other journals. In 1991, he was elected a fellow of Division 15 (educational psychology) and Division 16 (school psychology) of the American Psychological Association.

Kenji Hakuta is a professor of education at Stanford University, where he teaches in the programs of language, literacy and culture, and psychological studies in education. An experimental psychologist by training (he received his Ph.D. from Harvard University in 1979), he is currently concentrating his research on the linguistic development of bilingual children. His publications include *Mirror of Language: The Debate on Bilingualism* and *In Other Words: The Science and Psychology of Second Language Acquisition*. He serves as cochair of the National Educational Policy and Priorities Board for the U.S. Department of Education and as chair of the National Academy of Sciences' Committee on Developing a Research Agenda on the Education of Limited English Proficient and Bilingual Students.

Sharon Lynn Kagan, senior associate at Yale University's Bush Center in Child Development and Social Policy, is a nationally and internationally recognized expert on the care and education of young children and their families. She is a frequent consultant to the White House, Congress, the National Governors' Association, the U.S. departments of Education and Health and Human Services, and numerous national foundations, corporations, and professional associations. Dr. Kagan, who has served on more than forty national boards and panels, including the governing board of the National Association for the Education of Young Children (NAEYC), President Clinton's education transition team, and national commissions on Head Start and Chapter 1, and she has published widely on such issues as the development of policy for children and families, family support, early childhood pedagogy, strategies for collaboration and service integration, and the evaluation of social programs. Dr. Kagan has been a Head Start teacher and director, a fellow in the U.S. Senate, a public school administrator, and director of the New York City Mayor's Office of Early Childhood Education.

Stephen Martinez is principal of the Edison Language Academy, a Spanish immersion school in the Santa Monica–Malibu Unified School District. Mr. Martinez began his teaching career with the district in 1973 as a bilingual educator. After five years he was promoted to district headquarters as assistant to the supervisor of curriculum. He later served the district as director of the outdoor education program and director of Title VII, ESL, and bilingual education; he also has administrative experience at both the secondary and elementary levels. In 1992 Mr. Martinez founded the first Japanese immersion program in the state of California, and in September 1994 he established a multilanguage total immersion school, the first and only school in California to provide core curriculum instruction in Japanese and Spanish to English-dominant children. He has written several educational workbooks. Mr. Martinez holds bachelor's degrees in psychology and in Mexican American studies and a master's degree in educational administration; he is a doctoral candidate at Pepperdine University in Los Angeles.

Richard P. Mills became president of the University of the State of New York and commissioner of education in August 1995. As commissioner, Dr. Mills is chief executive officer of the Board of Regents, which has jurisdiction over every education endeavor in the state, including public and nonpublic elementary, middle, and secondary education; public and independent colleges and universities; museums, libraries, historical societies, and archives; the vocational rehabilitation system; and the licensing and oversight of thirty-eight professions. Dr. Mills came to New York from Vermont, where he had served as commissioner of education for seven years. Before that, Dr. Mills served as a special assistant to Governor Thomas H. Kean of New Jersey for four years, having held a variety of other posts in the New Jersey Department of Education, including special assistant to the commissioner and deputy assistant commissioner. Dr. Mills received a bachelor's degree in history from Middlebury College in 1966 and a doctorate in education from Columbia University in 1977. From 1967 to 1971 Dr. Mills taught history at the Dalton School in New York City. With four other teachers, he helped establish and run the Elizabeth Seeger School in New York City from 1971 to 1973.

Martha Minow is a professor of law at Harvard Law School, where she teaches family law and civil procedure. Dr. Minow is the author of *Making All the Difference: Inclusion, Exclusion, and American Law*, which was chosen as an Outstanding Book on the subject of human rights in this country by the Gustavus Myers Center for the Study of Human Rights in the United States. Dr. Minow has also edited *Family Matters: Readings on Family Lives and the Law* and two other books. She has written articles about the treatment of women, children, persons with disabilities, and members of ethnic, racial, or religious minorities. Dr. Minow serves on the faculty of the Doing Justice program at Brandeis University, which introduces judges to works of literature as material for reflecting on the tasks of judging. She has served on the boards of the American Bar Foundation, the W. T. Grant Foundation, the Judge David L. Bazelon Center for Mental Health Law, the Covenant Foundation, the Family Center (Somerville, Massachusetts), and the Judge Baker Children's Center. Dr. Minow is a member of the advisory committee to the Human Rights Program at Harvard Law School. Before entering teaching, she was a law clerk for Justice Thurgood Marshall and for Judge David Bazelon.

Allan R. Odden is a professor of educational administration at the University of Wisconsin–Madison and codirector of the Consortium for Policy Research in Education. An expert on school finance, education policy, education policy implementation, school-based management, and teacher compensation, he is author of more than 130 journal articles and chapters. He recently edited *Rethinking School Finance: An Agenda for the 1990s* and coauthored *School Finance: A Policy Perspective* and *Educational Leadership for America's Schools*. His newest book is *Paying Teachers for What They Know and Do*. He worked with the Education Commission of the States for a decade, serving as director of policy analysis and research and as director of its educational finance center. Dr. Odden is a past president of the American Education Finance Association. He received Ph.D. and M.A. degrees from Columbia University, a master of divinity degree from the Union Theological Seminary, and a B.S. from Brown University. He was a mathematics teacher and curriculum developer in New York City's East Harlem for five years.

Lauren Resnick is a professor of psychology at the University of Pittsburgh, where she directs the Learning Research and Development Center. Her recent research has focused on assessment, the nature and development of thinking abilities, and the relationship between school learning and everyday competence. Dr. Resnick is cofounder and director of the New Standards Project, a consortium of eighteen states that are setting shared performance standards and building examinations that will yield an internationally benchmarked high school certification for American students. She was a member of the Commission on the Skills of the American Workforce, served as chair of the assessment committee of the SCANS Commission, and continues to chair the Resource Group on Student Achievement of the National Education Goals Panel. She has served on the Commission on Behavioral and Social Sciences and Education and on the

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Mathematical Sciences Education Board at the National Research Council. Her National Academy of Sciences monograph, *Education and Learning to Think*, has been influential in school reform efforts, and her widely circulated presidential address to the American Educational Research Association, "Learning In School and Out," has shaped thinking about youth apprenticeship and school-to-work transition. She was educated at Radcliffe and Harvard and is a member of the Harvard Board of Overseers.

Roy Romer, the governor of Colorado, was first elected in 1986; he was re-elected in 1990 and again in 1994. From 1977 to 1987, he served as Colorado state treasurer. He was a member of the Colorado House from 1958 to 1962 and of the Colorado Senate from 1962 to 1966. Governor Romer's agenda centers on making Colorado the best place in the nation to raise a child by improving K–12 education; reforming higher education; making state government more efficient and more user-friendly; improving public safety; maintaining a healthy economy; and working with local governments and local citizens to direct growth and to protect the state's beauty and environment. Governor Romer has served as the chairman of the Education Commission of the States and of the National Governors' Association (NGA). He continues to serve on the NGA's board of directors and as cochair of the association's task force on health care reform. He also has been a member of the National Education Goals Panel since its inception. As the goals panel's first chairman, he was responsible for developing the first national education report card. He also served as cochair of the National Council on Education Standards and Testing. Governor Romer received a bachelor's degree in agricultural economics from Colorado State University and a law degree from the University of Colorado; he also studied ethics at Yale University.

Carole Simpson, an Emmy-award-winning senior correspondent for ABC News, is anchor of *World News Sunday*. She reports most frequently on family and social issues for the "American Agenda" on *World News Tonight with Peter Jennings*. Her reports have also appeared on *20/20*, *Nightline*, and other ABC News programs and specials. Ms. Simpson has also substituted for Peter Jennings on *World News Tonight*. During the 1992 presidential campaign, she was moderator of the second presidential debate in Richmond, Virginia — the first presidential debate in history to have a town meeting format. She was also one of the reporters on the critically acclaimed 1989 documentary, "Black in White America," and she anchored three hour-long ABC News specials: "The Changing American Family," "Public Schools in Conflict," and "Sex and Violence in the Media." In her more than twenty years as a television broadcaster, she has received numerous awards for her reporting on social issues, particularly those involving children and families, and for her efforts to improve opportunities for women and minorities in the broadcasting industry.

Robert E. Slavin is codirector of the Center for Research on the Education of Students Placed at Risk, at The Johns Hopkins University. He received his B.A. in psychology from Reed College in 1972 and his Ph.D. in social relations in 1975 from Hopkins. Dr. Slavin has authored or coauthored more than 180 articles and 15 books, including *Educational Psychology: Theory into Practice; School and Classroom Organization; Effective Programs for Students at Risk; Cooperative Learning: Theory, Research, and Practice; Preventing Early School Failure*; and *Every Child, Every School: Success for All*. He received the Raymond B. Cattell Early Career Award for Programmatic Research from the American Educational Research Association (AERA) in 1986, the Palmer O. Johnson Award for the best article in an AERA journal in 1988, and the Charles A. Dana award in 1994.

Sidney A. Thompson is superintendent of the Los Angeles Unified School District, the nation's second-largest public school system, with an enrollment of 650,000 students in kindergarten through senior high school. A product of Los Angeles schools, Mr. Thompson is a graduate of the United States Merchant Marine Academy. After a year at sea with the Merchant Marine, he activated his commission in the U.S. Navy and served during the Korean War. Returning to Los Angeles, Mr. Thompson continued his education, doing postgraduate work in mathematics at UCLA; he first joined the Los Angeles District as a teacher in 1956.

STAFF

Antony Ward is executive director of the Carnegie Task Force on Learning in the Primary Grades. He has had many years' experience in education policy and practice, as founder of a network of parent-run alternative preschool and elementary school programs in New York's East Harlem and then of the city's largest nonprofit child care resource and referral agency, Child Care, Inc.; he also served as executive director of the city's Temporary Commission on Early Education and Child Care. He has a bachelor's degree in elementary education and a Ph.D. in anthropology.

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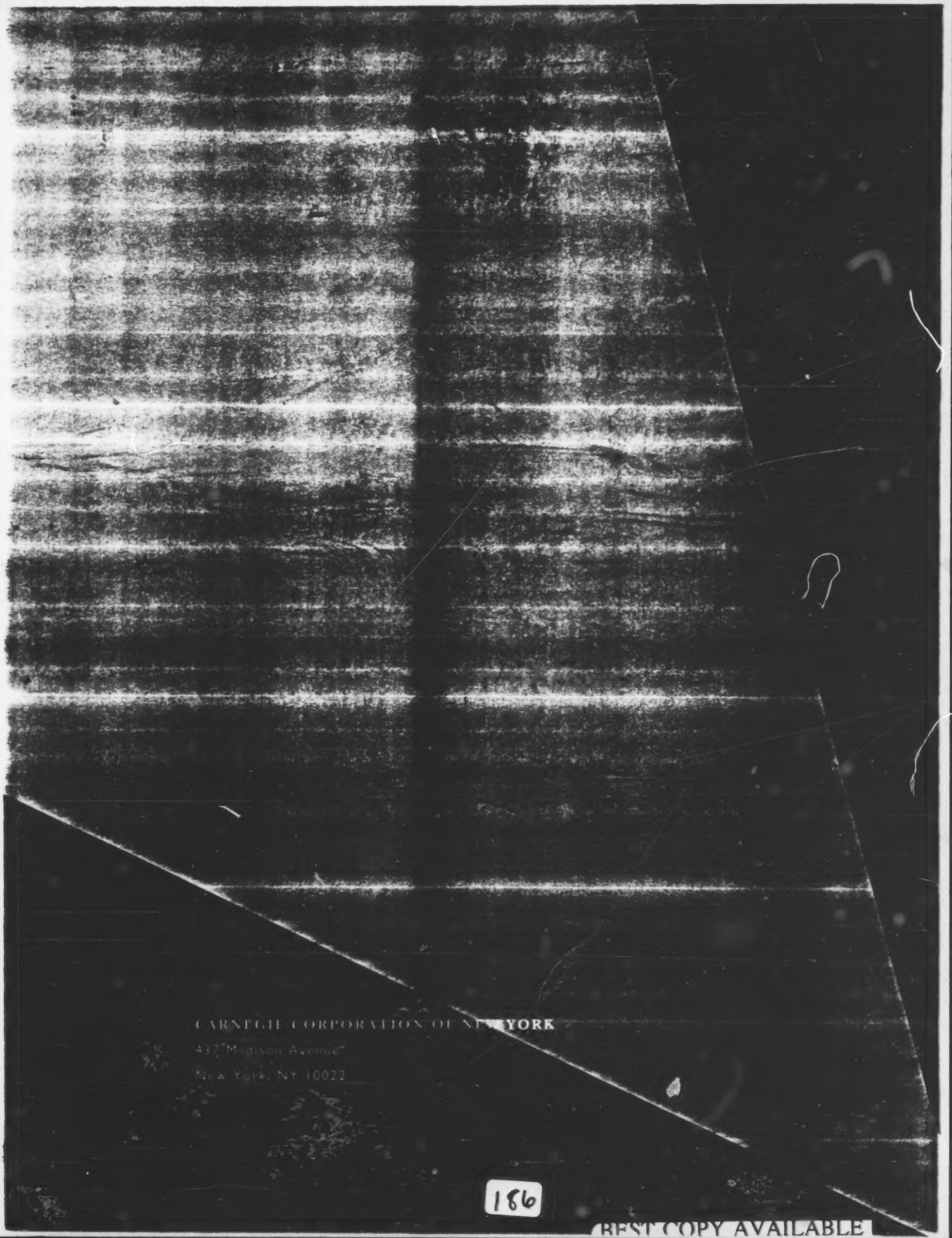

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